# The Journal of the American Medical Association

**Published under the Auspices of the Board of Trustees.**

VOL. XLVII. CHICAGO, ILLINOIS, AUGUST 25, 1906. No. 8.


## *Addresses*

### CERTAIN PHASES OF RECENT WORK IN PATHOLOGY AND PHYSIOLOGY.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON PATHOLOGY AND PHYSIOLOGY AT THE FIFTY-SEVENTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, BOSTON, JUNE 5-8, 1906.


HENRY A. CHRISTIAN.

BOSTON.


In accordance with the by-law of the American Medical Association the privilege is accorded to me, as Chairman, of opening this annual session of the Section on Pathology and Physiology. Moreover, I am geographically in a position to extend to you, its members, a welcome to the city of Boston and more especially to the laboratories of our medical schools and hospitals, and this I most cordially do. It is the privilege this year of the Section to have as guests Prof. von Frey of Würzburg and Professor Mills of Montreal. To them, in the name of the Section, I extend a hearty welcome and a cordial invitation to take part in all of the proceedings. We feel honored by their presence and anticipate much pleasure and profit from the addresses with which they are to favor us.

On this occasion it has seemed to me fitting briefly to call attention to certain phases of recent American work in pathology and physiology. It is not my intention to give a critical review of any special researches nor to attempt any enumeration of the recent publications. It is the general aspect of the work, not the work in detail, of which I wish to speak, and more particularly of that which in a sense represents some departure from the type of work done in earlier days.

Our medical laboratories may be grouped in four classes: 1, Government laboratories; 2, medical school laboratories; 3, hospital laboratories; 4, independent endowed laboratories.

Of government laboratories we have two classes, national and municipal. Medical laboratories under national supervision represent a recent development in the United States. Many of the departmental laboratories at Washington are indirectly associated with medical science. Those concerned in the standardization of antitoxin, drugs, and foodstuffs are of great importance to the medical profession, but it is medical investigation with which we are now most concerned, and in these lines some creditable work is being done at Washington.

The government laboratories at Manila have gradually grown out of the necessity of an army and navy occupation. Now they occupy a large, new, well-equipped building, forming an extensive plant, active in work. The investigations there of amebic dysentery, plague and other tropical diseases serve as types of their work and amply justify their existence. The facilities they furnished to the recent Harvard expedition for the study of experimental variola and vaccinia illustrates another form of their usefulness. With the extension of social and commercial relations between the United States and the tropics, as is inevitable with the possession of tropical colonies, a knowledge of tropical diseases will become of greater importance and our medical schools will be compelled to teach tropical medicine. Such laboratories as those at Manila should be able to furnish material for such courses and the facilities for our teachers to gain there some first-hand knowledge of the subject. An interchange of material and frequent expeditions should be of such great mutual advantage that the government could afford to furnish transportation and quarters each year for a few of our laboratory workers, and thus give a great stimulus to this branch of medicine in America. Unless this be done these laboratories, in a sense, will fail to accomplish their highest good.

Another form of government activity has been the equipping of commissions for the investigation of special problems. The brilliant results of the commission for the investigation of yellow fever are still fresh in our minds and their vast importance should serve as an incentive for much future work. The recent appropriation for the establishment of a station for the investigation of leprosy in the Hawaiian Islands, to be thoroughly equipped for scientific work and under the direction of a trained investigator, is a type of national government activity along these same lines.

Municipal laboratories have long been in existence in connection with boards of health and their routine work is of almost daily use to every medical man. However, only in recent years has medical investigation been a part of their work, and even now investigation is carried on in but few. The work of the New York City Board of Health, from whose laboratory much scientific work of merit has been published, should serve as an example in this respect to many other municipal laboratories. To serve its highest function, the muncipal laboratory must investigate as well as carry on routine examinations.

Medical school and hospital laboratories are in many cases very intimately associated. Their establishment came fairly early in America. Still, in the last few years, many new laboratories have been opened and great improvement has been made in both the old and the new, the greatest perhaps in those cases where the union between hospital and medical school has been closest and the stimulus of teaching has been strongly felt. This is a fact which can be scarcely disputed and should not remain without influence on the hospital laboratories as yet unattached to medical schools. Much of the advance in the medical school laboratories has been the result of the gradual extension to the medical school of the university spirit, and this influence, in

turn, has been felt in the hospitals. With it has come a higher type of work, more experimental investigation, more search after basic principles.

A very large amount of work, much of it excellent in quality, has been produced in such laboratories. This covers a wide range of subjects. In the hospital laboratory most of this has been along the lines of pathology and chemistry. Physiology has lagged too much in the hospital laboratory, where for the most part it is unrecognized. In this respect development is needed in our clinics and may serve to lessen the present too great breach between laboratory and ward worker.

It would be interesting to recapitulate much of this recent work, but time does not suffice. The work of two laboratories, however, I wish to call attention to. In the laboratory of the University of Michigan valuable studies of the trypanosomes and the spirochetæ have been made. It is particularly noteworthy that there, in an inland town in the north temperate zone, investigations could have been carried on with the result of a distinct advance in our knowledge of a group of diseases of man, most of which are confined to the tropics. The results of this work will extend greatly the range of problems capable of successful attack in the laboratories of this country. In the laboratories of the Johns Hopkins Hospital another phase of medical work is shown. There in a laboratory of experimental medicine pathology, physiology, medicine and surgery have been combined; a form of medical coöperation, if I may be permitted the term, is in operation. Diseased dogs are treated and the student learns medicine and surgery. Diseased conditions simulating those occurring naturally are produced; operative technic is acquired. The immediate and late effects are studied by the methods of physiology and clinical medicine; the end results are studied by the methods of pathology. More exact knowledge of the phenomena of certain diseased conditions and a better understanding of their underlying causes are thus obtained. This is a type of laboratory and work which needs to be developed in many of our hospitals if we are to keep pace with medical science abroad.

Independent endowed laboratories are the latest development of medical science in America. They are represented by the Rockefeller Institute in New York, the Institute for the Study of Infectious Diseases in Chicago and the various commissions for the investigation of cancer. Some are organized for the study of special problems, others may devote their attention to a wide field. Recently a change has been made in the mode of attack of many of these special commissions. Instead of attacking the problem directly as in the earlier days, attention is being given to technical methods and more fundamental biologic principles in the hope of thus securing a new path of approach to the central problem. With this new point of view we hear less of the so-called practical. This query, "What is the practical use of the problem?" has too long been a drag stone to investigation in America. This hindrance, I believe, is now disappearing and as a consequence there is more search for the truths at the root of problems, even though any practical application may seem remote. In fact, advance will come earlier from work along these lines and already some of the most practical applications have been the results of most abstract investigations. This change in point of view, to me, marks a new and important phase of American medical investigation.

During the past few years, undoubtedly, distinct progress has been made in medical science in America. More men and more money than ever before are now devoted to the study of pathology and physiology. The subjects have broadened out until they touch more and more the abstract sciences, on the one hand, and clinical medicine and surgery, on the other. The methods of the laboratory are being applied in the clinic and from the clinic are gathered problems for the laboratory; both use more the methods of pure science. It is to be hoped that these changes mark the dawn of a new era for American medicine. Some of the spirit of this new medicine is suffused through the program for this session, to which I now invite your attention.

---

## TWO DESIRABLE REFORMS.*

C. M. JACKSON, M.D.
COLUMBIA, MO.

At commencement exercises themes concerning the improvement of the medical profession are always appropriate. It is only through the aid of the well-trained young men now entering the profession that we may hope for greater progress in the future.

That there is still plenty of room for improvement in the medical profession can scarcely be doubted. If, indeed, we consider the matter carefully we must reach the paradoxical conclusion that the medical profession of the United States ranks at the same time the highest and the lowest among the great civilized nations. In technical skill our leaders, especially in surgery, are probably the best in the world. On the other hand, owing to the low standards of medical education that have prevailed in this country during the past century, it must be frankly confessed that the rank and file of our medical practitioners average low in proficiency. As a single example of this, I might cite the fact that not one practitioner in ten is able to use the microscope effectively, although this instrument is universally acknowledged to be of great practical value in the diagnosis of a large proportion of diseases.

Conditions are changing, however. We are now in the midst of a great movement which has for its object the improvement of medical education and the elevation of the medical profession. Entrance requirements of the medical colleges have recently been advanced from a common-school to a high-school education, and already it is generally recognized that to this at least two years of preparation in college work must soon be added. The time required by the medical course itself has increased fourfold, and the end is not yet.

Even more important than the increase in the entrance requirements, and in the length of the curriculum, is the change that has taken place in the character of the instruction given in medical schools. Corresponding to the rapid modern development of the medical sciences, laboratories have multiplied. These laboratories in all first-class schools have been thoroughly equipped with expensive apparatus and have been placed in charge of teachers who spend their entire time in instruction and research. Clinical instruction has also greatly improved, and that this also may be placed on a true university basis is one of the hopes of the future.

Most important of all, it seems to me, has been the revolution in the spirit of medical education. The old

* An address delivered at the commencement exercises of the Medical Department of St. Louis University, May 19, 1906.

lecture system has been overturned and modern instruction is planned so that the student may learn by observing, thinking and acting for himself. The research spirit and methods so ably presented by Dr. Dodson[1] at the last commencement exercises of this school are beginning to dominate medical education.

This research spirit, I believe, merits still greater encouragement. We have in our modern laboratories and clinics the facilities and conditions necessary for research work, at least by members of the faculty. Why not go a step further and make provision for research work by the students? The first of the two reforms which I wish to suggest to-night is along this line. I propose that, with this purpose in view, we revive as a requirement for the degree of doctor of medicine the preparation of a thesis, similar to that now required in European schools. I say revive the requirement, for it was in fact a requirement in the few American medical colleges existing before the Revolutionary war. In some medical colleges the custom of requiring a thesis for graduation was maintained until the latter half of the nineteenth century. These were, for the most part, theses in name only, however, being in reality mere compilations based on no original work.

The provision for real thesis work as a requirement for the degree of doctor of medicine could easily be made. A small amount of time, perhaps three hours a week, could be set aside in the senior year to be devoted to the work. At the beginning of the year each senior could select a topic for his thesis, with the advice of some faculty member, under whose supervision he would work. The thesis, after completion, would, of course, be submitted to the faculty for approval. The subjects selected would naturally vary according to circumstances, and would necessarily be simple in character, so that the work might be completed, the literature reviewed and the results worked up in the form of a written thesis within the limited time at the student's disposal. The necessary material for thesis work is already present in abundance in our laboratories and clinics. Why not utilize it in this way?

The first objection to the plan which is likely to arise is that the curriculum is already overcrowded, and that the medical student has no time for additional work. This objection might be met, it seems to me, by reducing to a slight extent in the senior year the time now required for the usual cut-and-dried courses, so as to give opportunity for a bit of original work. If, however, this be considered not advisable, there is still another possibility: through lengthening the curriculum. A fifth year for the medical course is already being seriously considered, and it is one of the desirable changes we shall doubtless see accomplished within a few years. This fifth year will probably be devoted to advanced clinical work, preferably hospital service, and would afford ample time and opportunity for working up a thesis for the doctorate degree.

A second objection which might be advanced is that students have not, as a rule, the ability to do original investigation for thesis work. That excuse might be valid for students of some schools, but not for those of any first-class school with modern equipment and respectable entrance requirements. Any student can do original investigation who can observe accurately and reason logically. And any student who can not do this should certainly not be allowed to enter the medical profession.

Then, again, it may be urged that the plan of requiring a thesis for graduation would throw an additional burden on the members of the already overworked medical faculty, under whose supervision the work would be done. But if the members of the class were properly scattered there would be very few, perhaps only one or two, under the supervision of each member of the faculty. And what member of the faculty would not be willing to give individual assistance to one or two students who wanted to do advanced work in that department? If necessary the teaching force could, of course, be increased to accommodate the extra work.

A more serious objection in the case of many schools is the lack of library facilities. This is one line of equipment which has as yet been greatly neglected in most medical colleges. It is especially important that files of the leading American and foreign periodicals devoted to the various medical sciences should be accessible in every medical college library. They are valuable for use in all instruction, but indispensable for research. I am glad to observe that the Medical Department of St. Louis University has already made a most excellent start in this direction, and I hope that the authorities and other friends of the university will not fail to lend their support in strengthening this most important feature. It costs money, it is true, but this is only one more proof of the statement that modern medical education is the most costly education in the world.

When all the objections to the plan of a thesis requirement have been met, we still have to consider whether it is really worth while. What advantages are to be derived from the measure? In the first place, the adoption of this plan would stimulate the research spirit throughout the entire medical school. It would tend to discourage that bane of modern medical education, the "cramming" system, and to encourage students to think for themselves. Independent thinking is one of the rarest things in the world. The accumulated experience of the past is, of course, not to be despised or neglected. On the contrary, to teach a student to appreciate properly the knowledge handed down to him, there is nothing so effective as to make him dig out for himself even the smallest nugget from the vast mine of undiscovered knowledge.

Training of this sort is also of great practical value to the future practitioner. It has often been said, but can not too often be repeated, that every case in medical practice is a scientific problem, and that every successful practitioner (whether he realizes it or not) is an original investigator. And if the practitioner has learned the research spirit and methods during his medical course of study his success in practice will naturally be more rapid and certain.

Moreover, although the intrinsic value of the results obtained by the work done for theses would in most cases be small, the final effect of such a requirement would be to increase the quantity and to improve the quality of the scientific work done by practicing physicians. Why is it that the average papers read at the meetings of our medical societies are so poor in quality? It is not from lack of time to prepare them. It is certainly not from lack of material. It is because the average physician does not realize what valuable opportunities for research work exist in connection with his practice. He does not know what observations are of scientific value or how to record them. He does not know where to find, for comparison, similar observations

1. THE JOURNAL A. M. A., July 8, 1905, p. 83.

already recorded in the storehouse of medical literature. He has had no training in bringing his observations and conclusions into shape for presentation and publication. These deficiencies, at any rate in large part, would be supplied by the proposed requirement of original thesis work. There are undoubtedly to-day a great many unproductive physicians who could and would make valuable contributions to the advancement of medical science if some such training had been provided in the medical school.

Finally, the requirement of a thesis would add to the value and dignity of the degree of doctor of medicine. The doctor of divinity and the doctor of philosophy must each present a dissertation. The degree of doctor of medicine should represent attainments equally high. A thesis for the doctorate in medicine has long been required in Germany and in most of the other great European nations. America is slow in following their example, but "better late than never." Let it no longer be just to reproach the doctor of medicine with the phrase, *doctor sed non doctus!*

There is a second line of needed reform, without which no extensive improvement of the medical profession as a whole can be expected. The requirement of a graduation thesis is a measure which could be adopted and enforced by any medical college. But this, like the great improvements in various directions already made by many medical colleges, does not insure an improvement of the entire medical profession. As a matter of fact, only a small percentage of the medical colleges have kept pace with the advancing standards. Only a few colleges have had the progressive spirit, the ability and the courage to increase adequately the entrance requirements, to equip and to maintain first-class laboratories and clinics and to insist on a high standard of work. The result has been that the high-class schools often suffer from competition with inferior colleges having low requirements. In accordance with a fundamental law of Nature that all bodies move in the direction of least resistance, medical students tend to flock toward those institutions offering the medical degree for the least expenditure of time, money and energy. Why does this tendency, so clearly detrimental to the public welfare, remain unchecked? Why are the low-grade medical colleges still permitted to grind out annually thousands of unqualified graduates to swell the ranks of the already overcrowded medical profession?

It might be argued that the fault lies with the public; that if the people would refuse to patronize incompetent physicians the inferior medical schools would soon die a natural death. But the people are practically helpless. Even the most intelligent laymen often display a pitiful and disastrous lack of judgment in choosing medical advice. They must trust largely to appearances, and even the most incompetent practitioner usually manages to conceal his defects and to make a fine outward appearance. No, it is impossible for the public to protect themselves individually in medical matters. They must depend on the State for protection.

State protection depends primarily on the medical examining and licensing boards. The responsibility for present conditions, therefore, apparently lies chiefly with the licensing boards of the various states. It is to them that we must look for reform in this line. They, and they alone, have the power to protect the public on the one hand and to encourage the progressive medical colleges on the other. The state examinations may be compared to a dam placed across the channel of a river. The water of the stream rises to a level high enough to overleap the barrier, but no higher. Similarly, in medical education the great majority of medical students will prepare themselves to meet the minimum requirements, but no more.

It is but just to the state boards, however, to remember that they have had many difficulties to contend with. All of them, moreover, have improved, and in some states, notably New York and Michigan, they have materially advanced the cause of medical education. I do believe, however, that the majority still lag far behind what ought to be the minimum requirements.

The particular deficiency which I desire to point out in this connection concerns not the thoroughness but the character of the state examinations. The trouble, it seems to me, is not so much that the examinations are too easy as that they are not of the right kind.

To approach this question intelligently we must bear in mind the purpose of the state examination. It is, of course, to determine whether the candidate is properly qualified to practice medicine—to diagnose and to treat properly the various diseases. Do the state examinations fulfill this purpose? Are they a fair test of a man's ability to practice medicine? It does not require much argument to prove that in this respect they are utterly inadequate.

In this connection I will venture to make what may seem to be a preposterous statement. I believe that any young man with a good memory could in a few months memorize a set of quiz compends, and (if allowed to try) could pass the state board examinations in many states without ever having seen the inside of a medical college. And, furthermore, in some instances, if all reports be true, he need not even have a good memory, provided that he carry the quiz compend in his pocket!

The evils of such conditions need only to be pointed out to be condemned. But the important question is, How should the examinations be changed? Would a set of judicious questions, thorough but fair, and a system of inspection which would exclude cheating meet the requirements? It would doubtless be an improvement, but it would still be inadequate. The trouble is that our present system of written examinations is founded on a wrong principle. Nor would oral examinations (from a mere list of questions) help matters much. The ability to answer questions in this way depends largely on word memory, and word memory is no fair index of ability to practice medicine.

The only real and fair test, it seems to me, is a trial at the thing itself, or something as near to it as possible. Let us see how this principle may be applied. It may be assumed as self-evident, in the first place, that a knowledge of the normal and abnormal structure and functions of the human body is an essential prerequisite to the successful practice of medicine. What, for example, is a fair test of a student's knowledge of the anatomy of the triangles of the neck? It is certainly not the ability to repeat words of description which he may merely have committed to memory from a textbook, but (what is a vastly different thing) his ability to find, recognize, understand and explain the various structures from an actual preparation or on the living body. The same principle holds not only for all the fundamental sciences but even more forcibly for the clinical branches. For example, a student may be able to write a full and accurate description of a disease, and yet fail completely even to recognize that disease when he meets the practical test at the bedside.

A practical examination, therefore, is absolutely necessary to exclude incompetents and to test fairly the candidate's ability to practice medicine. It might not be wise to exclude altogether the usual form of written or oral examinations, for a certain amount of memorization is undoubtedly necessary in medicine. Such tests, however, ought to be made strictly subordinate to the practical tests mentioned.

Conceding the theoretical superiority of such practical examinations, the question now arises as to whether or not it would be possible for the state boards, under present conditions, to carry out such a plan. It seems to me quite possible. The necessary materials could usually be obtained without difficulty. The laboratories of any good medical school could readily furnish whatever specimens and apparatus might be necessary to test the candidate's knowledge of the fundamental sciences. Similarly, arrangements could doubtless be made with public or private hospitals for the use of material for the practical clinical examinations.

The greatest difficulty would doubtless be the increased amount of time necessary to conduct the examinations. Such examinations would necessarily consume much more time than the present plan, for they would be largely individual in character. As a necessary consequence the examinations would also be much more costly. But they would be well worth the additional cost, whether this cost be borne by the state or by the individual applicants.

That such a plan is entirely practicable is shown by the experience of Germany, where the state examinations are of such a practical character. In Germany there is an additional improvement, in that the state examinations are divided into two parts. The first examination, the *tentamen physicum,* comes at the end of the first two years of the medical course and covers the fundamental branches. The second and final examination at the end of the course is exclusively clinical in character. The advantage of this plan is that the student must have satisfactorily completed the work in the fundamental sciences before he is allowed to proceed with his clinical work. Many incompetents are thus weeded out at the end of the first two years.

If Germany can carry out a plan so cumbersome and costly, and yet so effective, why can not we? Is human life any less valuable here than there? The adoption of some such plan by our various states would be of the utmost value in the improvement of the medical profession. It would encourage higher medical education and protect the health and lives of the people.

---

## IMPRACTICABILITY OF INTERSTATE RECIPROCITY.*

EDWIN B. HARVEY, M.D.
Secretary of the Massachusetts Board of Registration in Medicine.
BOSTON.

Interstate reciprocity, so-called, has been discussed to some extent in every convention of this organization during the last decade. It has survived the storms of debate for so many years from the fact, no doubt, that it possesses some features of interest to certain members of the profession, some problems which have been labored with, but not yet solved to the satisfaction of all, and which may not be in the discussions of to-day. It is a trite saying that no question should be settled until settled rightly. Our distinguished president, thinking perhaps that further agitation of this subject at the present time might be of interest, asked me a few days ago to write a brief paper for this convention on the impracticability of interstate reciprocity.

Interstate reciprocity should be considered impracticable, however widely practiced, if it does not conserve the broadest needs of society, the protection of the community in the best possible manner against the evils of charlatanism in medical practice. From this standpoint the argument of this paper is drawn.

### WHAT IS RECIPROCITY?

The word reciprocity, unfortunately, has been chosen to stand for mutual recognition of medical registration certificates by state boards. This word belongs strictly to the literature of politics. In political circles it is much used at the present time in discussing trade relations between different countries. In such connection it has a well-understood meaning. The *North American Review,* in an article published not long ago, says:

> Reciprocity is only an international form of protection, signifying an equality between the citizens of two countries with respect to the commercial privileges to be enjoyed by each country within the domain of the other.

In this sense the word was first officially used in 1782, in the provisional treaty of commerce between the United States and England. The following may be cited as an illustration of the workings of this principle in international affairs: Canada recently said to the United States, We will allow your cotton goods manufacturers to dispose of the products of their factories in our country without levying duty thereon, provided you will allow our lumbermen to dispose of the products of their mills in your country on the same conditions. The United States replied, Such stipulations are not practicable, for we, too, grow forests and manufacture all the lumber we require for home purposes. The acceptance of your proposition would result in great injury to an important home industry which must be protected in the interests of our own people.

In every instance in international affairs we find that reciprocity has reference only to the importation of such goods or material as the receiving country does not produce at all or only in quantities insufficient to meet the public necessity. Reciprocity in political affairs has an eye ever to the protection of home interests, the prosperity of home institutions. But interstate reciprocity of medical licensure bears a different signification. For example: The state of Maine has a reciprocity clause, so-called, in its registration law. Maine says to New Hampshire, Why should we not reciprocate? We will permit your physicians to locate in Maine and will grant them a license without imposing any restrictions whatever as to their qualifications, provided you will receive our physicians on the same conditions. Such an understanding between two states, in medical parlance, is called reciprocity. But it is not reciprocity in the sense of affording protection. It is a free-trade arrangement wherein the primary object of medical legislation in the states is wholly ignored.

### METHODS OF REGISTRATION.

Three methods of registration concern us to-day. In some seventeen or eighteen states registration is effected through an examination only, Massachusetts, North Carolina, Mississippi, and practically New York, Pennsylvania and California are in the list. The considera-

* An address delivered before the National Confederation of State Licensing and Examining Medical Boards, Boston, June 4, 1906.

tion and acceptance of credentials issued by another state board or foreign country, irrespective of reciprocity, is a method of registration in several states. New Jersey and Connecticut may be cited as examples. The third system is the reciprocating system, the I-will-if-you-will system, which has been adopted by thirteen or fourteen states. Maine, Vermont, Michigan, Wyoming and Oregon are examples. It is against this I-will-if-you-will system that this paper is specially directed.

### MEDICAL PRACTICE LAWS.

For a moment let us consider the basic principle on which all state laws relating to the practice of medicine are constructed. Justice Field, of the United States Supreme Court, in rendering an opinion of the full bench on a question raised as to the constitutionality of such legislation, says:

> **The power of the state to provide for the general welfare of its people, authorizes it to prescribe all such regulations as in its judgment will secure, or tend to secure, its people against the consequences of ignorance and incapacity. . . . Due consideration, therefore, for the protection of society may well induce a state to exclude from the practice of medicine those who . . . are found, on examination, not to be fully qualified.**

This opinion by the highest court in the country is authoritative. It declares that protection of society underlies state medical legislation everywhere in this country. The fact that, to be constitutional, medical legislation must be based on the necessities of society for protection against certain real or supposed evils, should be kept constantly in mind in discussing interstate reciprocity.

In 1894 Massachusetts enacted a medical practice bill which, with a few modifications, is the law of the state to-day. When this bill was under discussion the only argument of influence advanced in its favor was the need of such a law to safeguard the people of the commonwealth, as far as possible, against the charlatan and the incompetent, whose methods and practices constituted an evil amounting to a real menace to the well-being of society. Not a word was said that such a law would in the least benefit or enhance the convenience of practitioners of medicine. Such a suggestion might have proved disastrous.

The outcome of this effort to secure medical legislation was the stablishment of a state commission to determine the qualifications of applicants, irrespective of college diploma or certificates of registration issued by other states. Should an advocate of reciprocity petition the legislature now for an amendment to this law, providing for the admission of physicians to practice in this commonwealth by virtue of certificates of registration granted by other states, the question would be raised at once as to what or whose interests would be promoted by the enactment of such a bill? The petitioner of necessity would reply that such an amendment would make itinerancy easy, that it would facilitate the advent into this state of physicians from other states looking for new fields for practice, inasmuch as they would not be called on to submit to examination tests as to their qualifications. Such amendatory legislation would admit to the ranks of the profession in this state persons adjudged qualified to practice by educational standards inother states, some of which at least may well be considered inferior to our own.

Should access to practice in any state be made thus easy? Is scarcity of physicians one of the evils confronting the people in any state to-day? If so, all restrictions on the importation of foreign talent should be removed and no scrutinizing tests applied. Rather than to advocate such a procedure of medical licensure, would it not be wiser and better to endeavor to limit the supply of practitioners, if possible, through efforts to achieve still higher standards in the medical school and in the licensing board in order that the men and women and children throughout all the states may be better protected in life and health and comfort by being brought into closer contact with a higher order of intelligence and skill in the medical profession?

It surely rests with the advocate of free interchange of registration certificates, call it reciprocity if you please, before his cause should receive recognition, to demonstrate how such a process of medical registration will best secure, or best tend to secure, the people of any state "against the consequences of ignorance and incapacity." The highest court in the land has said that considerations looking to the protection of society are the only considerations which enable a state to prescribe regulations to exclude from, or to admit any one to, the practice of medicine.

### OBJECTIONS TO SO-CALLED RECIPROCITY.

At the risk of repeating myself somewhat, I desire to look at this matter from the standpoint of state regulations providing for reciprocity.

*It Confers Exclusive Privileges on Certain Persons.*—I contend that such regulations or statutory provisions as established in Maine, for instance, and in a number of other states, in effect confer exclusive privileges on certain persons. It must be clear to every one that the provisions of the Maine law discriminate against the citizens of that state and in favor of citizens of other states. Residents of Maine, young men of undoubted character and education, graduates of the Maine Medical School, applying for license to practice, are required to submit to a test examination by the Maine board; but young men residing in Tennessee, for instance, graduates of some one of the inferior medical schools in that state and registered there through the leniency of the examining board, would not be so required. Such a method of registration on the part of Maine surely constitutes a marked discrimination against the citizens of that state and, therefore, contravenes the provisions of the Maine state constitution.

It avails nothing to say that the applicant from abroad has taken one examination in his home state. Be that true, it may have been an examination equivalent, or not, to the usual examination tests in the state in which he seeks a license. If not equivalent, as likely not to be, the registration of physicians of low grade results. I contend that few states, if any, can afford to assume such a risk, lest they encourage thereby lower educational standards in the medical schools and in the profession generally.

Again, if reciprocity is to prevail to any great extent, it should prevail to the fullest. It should apply to all registered practitioners in the reciprocating states, irrespective of time or manner of registration; otherwise we would have class legislation, laws discriminating in favor of some and against others in the same line of business. This point, which, I think, is well taken, is ably presented by Dr. Beverly D. Harison,[1] the secretary of the Michigan examining board and a warm advocate of interstate reciprocity. He maintains that

1. Harison, Beverly D.: THE JOURNAL A. M. A., August 13, 1904, p. 482; also Medical Record, Oct. 4, 1902, page 525; also Bulletin of the Academy of Medicine, October, 1905.

reciprocity, to be constitutional and of value to the profession (he does not say to the public), should include nearly the entire list of registered practitioners. He says:

> Reciprocal legislation which provides only for the present and future practitioner, and ignores the older and experienced practitioner, for the reason that the latter has not obtained his license through a state board examination, is not only irrelevant and unjust, but is also unconstitutional.

Dr. Harison is consistent in the position he has taken. His is the only kind of reciprocity that would be just to the profession. But how many practitioners are there in any state ready to advocate such a far-reaching scheme, which is neither more nor less than an open door to admit to practice in any state any outsider without imposing any important restrictions whatever, except his ability to pay a registration fee.

*2. It Deteriorates the Standard of Medical Education.*—I assume that all the states are in favor of maintaining high standards of excellence in the profession. But under reciprocity, limited or unlimited, high standards, it seems to me, can not be maintained. How can a pond rise higher than its source of supply? Under reciprocity the standard of qualifications for practice in Pennsylvania, for instance, would fall practically to the level of the standards maintained in the reciprocating states, from which, in part, it would draw its supply of practitioners. I wish to be clearly understood on this point, because it is one of great importance to the public, in whose interests state commissions are established and, from year to year, are upheld.

One of the bulletins of the Academy of Medicine, published in 1904, contains much interesting and important statistical matter relating to the work of examining boards in 1903 in the several states. Similar statistics for the year 1904 were published in THE JOURNAL of the American Medical Association.[2] These statistics show the number examined in the different states and the percentages of successful and non-successful applicants. It is a matter of interest to note that these percentages are practically the same for each state for the years covered by the statistics, a fact which tends to show that the different states have fixed standards of qualifications to which from year to year they adhere with marked uniformity.

In 1904 Pennsylvania reported the examination of 581 applicants, of whom 20.8 per cent. failed; Connecticut reported 93 applicants examined, of whom 28 per cent. failed; California reported 296 examined, of whom 20 per cent. failed; New Jersey, 96 applicants, of whom 20.8 per cent. failed; Maryland, 187 examinations, 35.3 per cent. failures; Virginia, 175 examinations, 30.8 per cent. failures; Massachusetts reported 330 graduates examined, of whom 94 were from the Harvard Medical School. The percentage of failures for the year was 18.5 per cent.

By the side of this list place the following: Illinois reported 762 examinations, with 4.5 per cent. failures; Nebraska, 100 examinations, 7 per cent. failures; Ohio, 249 examinations, 5.2 per cent. failures; Georgia, 114 examinations, 3.5 per cent. failures; Michigan reported 53 examinations, with only 1.9 per cent. failures; Vermont, 55 examinations, 1.8 per cent. failures.

With such a showing of inequality in examination results in the states quoted, how can any one for a moment harbor the opinion that interstate reciprocity is practicable? Can Pennsylvania, drawing largely its supply of applicants for licensure from its excellent medical schools in Philadelphia, afford to fraternize with Illinois in a fee interchange of license certificates? By what subtle mental process is the conclusion reached that 4.5 per cent. of failures in one state is an exact measurement of 20.8 per cent. in the other? Does the difference of 16.3 per cent. of failures represent the superiority of the applicants in Illinois over those in Pennsylvania? Is it not more reasonable to conclude that the difference in percentages so uniform from year to year in the two states represents pretty closely the difference in examination methods and requirements? That the difference is due to the examiners, not to the applicants examined? But reciprocity, it is said, is based on equality of qualifications established by the examining boards in the reciprocating states.

In the published proceedings of the sixteenth annual meeting of American medical colleges, held recently, a distinguished member[3] of the profession is reported as saying:

> The primary object of the legislature is to supply qualified medical practitioners to the people, and that is always the object that the boards must have in view.

Truly and wisely said. But that is just what the advocates of reciprocity never have in view. The fact that such is the primary object of the legislature in every state in the Union in creating examining boards is the keynote reason why under existing conditions in this country interstate reciprocity is impracticable.

All moving bodies, animate as well as inanimate, follow the lines of least resistance. A wife in New York tires of her marital relations and longs for the freedom of single blessedness. She does not apply in the courts in that state for a decree of freedom. She would meet with too much resistance there; she equips herself for a few months residence in one of the Dakotas where she accomplishes her purpose and returns to New York a single woman. Here Dakota dominates New York. A young man in Connecticut is inspired with the desire for a medical education. He, too, follows the lines of least resistance and enters a weak school in Tennessee or Maryland. In due time he receives his diploma and is ready, he thinks, for practice. He desires to live his life in the practice of medicine in his native state, but he finds in Connecticut too much resistance in the examining board. So by force of circumstances he seeks and finds recognition as a practitioner in some other state whose laws and methods of registration are less stringent. In due time he returns to his native state with clean papers. Under reciprocity he is enrolled as a qualified practitioner. By such a method of registration, high educational standards disappear both in the examining board and in the medical school. Reciprocity levels down, never up. Logically considered, no other conclusion can be arrived at. Under reciprocity, states whose laws and requirements for registration are most lax dominate all the other states.

Last March, and again last month, two young men, last year graduates, one from a Baltimore school and the other from a Boston college, were before the Massachusetts board. In their last examinations the average rating of each, as returned by the examiners, was less than 65 per cent. and yet since their first failure in Massachusetts last March, both of these young men have successfully taken the board examination in another state and have received their certificates of registration. Under reciprocity, Massachusetts would be asked to

2. Vol. xliv, May 6, 1905.

3. B. D. Harison of Michigan.

admit these parties to practice, notwithstanding its state board had twice refused them recognition on the ground of incompetency. What can be said to illustrate more forcibly the impracticability of interstate reciprocity?

The rating of examination papers is not an exact science, and from the nature of the work can never become so. A required general average of 75 per cent. for a successful examination means nothing whatever to any one, or to any examining board, other than the board establishing such percentage, as its starting and finishing point in working out its conclusions as to an applicant's capabilities to practice. It is an arbitrary requirement which might just as well be fixed at 65, 70 or 80 per cent. as at 75. "It is not the thing itself, but the way it is looked at that gives delight."

3. *It is of Limited Usefulness.*—Again, were interstate reciprocity universal among all the states and territories in the United States, its utility would not apply to more than one-half of one per cent. of the practitioners in the country who have been in practice for a period of not less than three years; and fully 90 per cent. of that one-half of one per cent. would include only the unsuccessful, the poorly equipped, the indolent members of the profession who are ever on the move looking for more productive fields in which to labor.

The medical profession is not a caravan on wheels. The call to the successful practitioner is not to move on, but to remain a fixture in the state and locality where he has earned a reputation and a merited recognition and where his usefulness is appreciated. To him reciprocity does not appeal. But we are told that there are "experienced and notable men in the profession, professors and teachers in medical colleges," to whom, in case they should need to change their state citizenship, reciprocity would be a "deserving and relieving measure." This is probably true, but such instances are very infrequent and too unimportant to the general welfare of the community to require special legislation in their behalf. Moreover, many examining boards have, and all should have, discretionary powers bearing on the examination and registration of such applicants. Their way into the ranks of the profession within the jurisdiction of any board, can be and should be made easier and more inviting than the course of procedure afforded by reciprocity.

4. *It is Impracticable Because of State Sovereignty.*—We are told by the advocates of reciprocity that registration laws put a "restraint on individual freedom guaranteed by the Constitution of the United States," that state boundaries are imaginary lines, and that physicians are not permitted to cross state lines to relieve human suffering. Were such statements true, reciprocity would not relieve the situation, for reciprocity is a method of registration, however undesirable. If they mean anything, they mean that there should be no legislation whatever regarding medical practice. The statement regarding the curtailment of individual freedom guaranteed by the Constitution, is a "glittering generality," thrown in the face of numerous decisions of the Supreme Court. Again, the registration laws in nearly every state in the Union provide for over-the-border practice by physicians residing in border towns. This class of practitioners is not calling for reciprocity.

Bearing on the impracticability of interstate reciprocity, much might be said on differences of legislation on medical matters in the different states; that in regard to skilled labor, professional work of all kinds other than medical, such as teaching, plumbing, engineering, or any other business conducted under a state license, or civil service regulations, reciprocity among the states is unknown. Each state is ever intent on the welfare of its own inhabitants. It sets its own standards for every department of endeavor and adheres to them with a spirit of enlightened state pride. On such matters the congress of the United States has no voice or control. The several states, under the Constitution of the general government, being left to themselves as independent judges on all such matters, it happens that wide differences of opinion on most subjects of legislation exist, which opinions find expression in law.

In matters medical I see no good reason why we should advocate interstate reciprocity between Maine and Connecticut, any more than between Maine and Canada. Canada, it is true, is a province of Great Britain, but the English parliament exercises no authority over Canadian practitioners, because Canada enjoys the privilege of legislating for itself in respect to its domestic affairs, just as each of our states is privileged by our general government.

Advocates of reciprocity are wont to refer to the fact that a license to practice granted by Great Britain, enables one to practice in any part of the United Kingdom, without being called on to submit a second time to an examining board test. But this fact does not help their cause in the least. The government of Great Britain and Ireland is monarchical; that of the United States is republican. One legislative body, the English parliament, enacts laws for the entire kingdom. In the United States there are fifty legislative bodies, each a parliament, so to speak, making laws for its own independent body of people, on all matters relating to its domestic affairs. A stranger entering the jurisdiction of the English government, for the purpose of practicing medicine, must prove his qualifications as required by the laws of that parliament. And this is the exact status of affairs in each of the sovereign states in this country. Interstate reciprocity therefore, receives no encouragement in an appeal to English methods of dealing with medical practitioners.

The spirit of commercialism enters to such an extent into the trades and professions everywhere, and incompetency and deception manifest themselves in so many ways detrimental to the safety and happiness of individuals and communities, the states have found it necessary to place restrictions on, or limitations to, almost everything from the preaching of the gospel down to the running of an automobile in the public streets. This they do not only to conserve, but to enhance public interests, to keep open the avenues of progress in science and art. Thus it happens that we meet on every hand, restrictions and prohibitions, as well as permissions and choice of action.

The practice of medicine without a license is a prohibition in all the states, and the conditions on which such a license can be granted, are fixed by law. Each state has its conditions, laws and ideals. Let each state adhere to its own. It has ever been the spirit of the old commonwealth of Massachusetts to maintain high standards in all lines of its endeavor, especially in regard to its educational institutions. Ever aiming at the highest, it desires to accept none that are inferior. As members of this organization, men and physicians, inspired by broad philanthropic purposes, let us cling to high ideals of professional achievement, usefulness and dignity.

## *Original Articles*

# ENTRANCE REQUIREMENTS.*

GEORGE W. WEBSTER, M.D.

Chairman of Committee on Entrance Requirements, Vice-President National Confederation of State Medical Examining and Licensing Boards, President Illinois State Board of Health.

CHICAGO.

At the annual meeting of this confederation at Atlantic City, June, 1904, I had the honor to submit a standard curriculum for medical colleges and to suggest in connection therewith that the entrance requirement should be the following:

(a) Seven years in the primary or grammar school.

(b) Four years of high school, preference being given to the scientific rather than the literary course.

(c) A special course of two years in chemistry, physics, biology and languages; or, a college course in which the last two years shall have been modified to meet the demands of the medical student.

This standard of preliminary entrance requirements was not adopted, but the committee was instructed to make a report at this meeting of the confederation. In the report, among other things, I said:

The idealism of the German university maintains that the object and aim of an education is to develop in a symmetrical manner the mental faculties, to enable one to live to the utmost, to enjoy being. It is a doctrine of being, rather than of doing, of idealism rather than of realism, of the theoretical rather than the practical.

On the other hand, there is a very large class who insist in the social, and more especially the economic, utility of all human actions. They believe in the practical, the utilitarian, that which produces immediate results. They want men who do things.

The former argue that a man should devote 7, 4, 4, 4, 2 = 21 years of the best of his life to acquiring an education. Such a man, if he was always well, enjoyed good health in childhood, missed no time at school, and took no time for travel, would be ready to begin to earn his first fee at twenty-seven or twenty-eight years of age.

A system of education which demands that a man shall spend twenty-eight or thirty years of his life in preparation for active participation in its duties, that he earn his first fee at even twenty-five or twenty-eight years of age, seems in this eminently practical age, and as measured by organized society, to be impracticable and impossible.

Even in the so-called reputable medical colleges, there is nothing which approaches agreement as to the entrance requirements to be enforced, and in many of the medical colleges, these requirements are something fearfully and wonderfully made.

Unfortunately, the question in the past has been, not what constitutes the very best preparation for the very best kind of life work, but, Where can I get the largest number of degrees with the least work, the least expenditure of time, and a minimum of expense?

We should determine, as far as we may, what constitutes the ideal medical course, and then what kind of foundation such a course should have; in other words, the character of the preliminary training.

Educators in general have given insufficient attention to the special requirements demanded by the student desiring to enter medicine as a career, and have not done their duty in aiding the trend of special mental development necessary to the successful practice of medicine.

In this country there is an unmistakable rift between studies for culture and studies for vocation. The college course is pursued for culture rather than as a preparation for the professions.

I believe that the liberal arts degree has, in a sense, at least, determined our educational standard; that it is the mark of the well educated man, irrespective of his calling, and that for those who are considering merely technical training rather than culture, there should be at least one year added to the medical course, a connecting link, and at present a weak one, between the high school and the medical school, and consisting of physics, chemistry, general biology, Latin and German or French, or both. Possibly the plan suggested by President Butler, of Columbia, would be even better than this. He says: "There should be a college course of two years in length, carefully constructed as a thing by itself, and not merely the first part of a three-year or four-year course, which will enable intending professional students to spend this time as advantageously as possible in purely liberal studies.

### PRESENT CONDITIONS.

At the present time we are confronted by the following facts:

*First.*—The medical curriculum of the Philadelphia Medical College, founded in 1766, consisted of two courses of lectures of about sixty hours each, one in anatomy by Dr. Shippen, the other in medicine by Dr. Morgan. This curriculum has been gradually enlarged until to-day it contains a list of twenty-three subjects and the hours of instruction have been increased from a total of 120 to a total of about 4,000, the instruction extending over a period of four years.

*Second.*—In that same medical school, the entrance requirements decided on by the resolution of the trustees, May 27, 1767, were as follows:

1. It shall be required that such students as have not taken a degree in any college shall, before admission to a degree in physics, satisfy the trustees and professors of the college concerning their knowledge in the Latin tongue, and such branches of mathematics and natural and experimental philosophy as shall be judged requisite to a medical education.[1]

One of the four propositions quickly agreed on at the first meeting of what afterward became the American Medical Association in New York in 1846 was that "It is desirable that young men being received as students of medicine should have acquired a suitable preliminary education."

*Third.*—Notwithstanding the improved standards in the medical curriculum, little that is creditable in the way of raising the entrance requirements has been done by the majority of the medical colleges of the United States. In many instances they are lower than in the Philadelphia Medical College one hundred and forty years ago. Pedagogically and from the standpoint of the needs and rights of the people, the weak spot in our medical educational plan is that of entrance requirements. They are too slow and the medical colleges themselves are permitted to pass on their character. Even the entrance requirement of a high school is too low.

*Fourth.*—On the other hand, the greatly increased demands of the medical colleges make a college course of four years a longer time than the future physician needs to spend, in preparation for his medical studies. The report of the Associated Harvard Clubs, page 8, 1905, says:

European experience all indicates that where secondary schools are highly organized and well conducted, and professional education amply developed, four years of liberal study can not be maintained between the school period and the period of professional study.

Again, in their report of May 26, 1906, page 8, the committee says:

Even a cursory examination of the discussions on this subject discloses the fact that there is practical unanimity in this conclusion: That the period of four years between the second-

* Report of Committee to the National Confederation of State Medical Examining and Licensing Boards, June 4, 1906.

1. Packard's "History of Medicine in the United States," p. 190.

ary and the professional schools is too long and that the requirement for the four years' course for the A. B. degree, if continued, will result in the exclusion of the holders of that degree from the so-called 'learned professions.' The four years' course is doomed. Indeed, it is already disappearing through natural causes, the effects of which can not be avoided to the extent of saving or restoring the four years' course.

*Fifth.*—The mass of the poorer or even middle class medical colleges will adopt no higher standard of entrance requirements than those imposed by the examining boards. This question of entrance requirements will never be solved by the medical colleges and the medical associations, partly for pecuniary reasons, and partly because the college associations persist in going about it in the wrong way. For example, the president of the Association of American Medical Colleges, in his annual address at the meeting at Pittsburg, Pa., March 19, 1906, still harps on that constitutional impossibility, a national board, as the panacea for all our medical educational ills. He says:

**The inconsistencies of many of our state laws controlling the practice of medicine and surgery lead us to a demand for national laws that would abrogate the present irregularities and bring about a uniform educational standard, acceptable to every examining and licensing board in the United States. To further this end, I solicit the indorsement of this association that such a national board be created from delegates sent from each state and territory.**

It seems unnecessary, and in this body it is unnecessary to repeat that everything relating to the whole subject of medical education, including preliminary entrance requirements, the license and control of the practice of medicine, belongs to the state; its regulation and control is an exercise of the general "police power" of the state; it is one of the state's rights with which the federal government has nothing whatever to do.

The state board of health, or the examining or licensing board in each state, is, in view of the authority vested in it by the legislature, the only body authorized to determine the condition or terms under which physicians are licensed to practice in that state. This body determines the character of the entrance requirements, the length and character of the medical course, the subjects embraced in the medical curriculum, the time to be devoted to each, the character and scope of the examination, the equipment of the medical college in order to be in "good standing" with the board. The state alone, each for itself, through its examining board, has the sole right to establish and to maintain medical educational standards.

### ATTITUDE OF EXAMINING AND LICENSING BOARDS.

Clothed with the power and charged with the duty of establishing, maintaining and enforcing reasonably high educational standards in the interests of higher education and of the rights of the people, what are we as examining and lincensing boards going to do in regard to this all important question of entrance requirements? Are we going to do as has been done in the past, wait, and "play safety" and progress no faster and no farther than we are forced by popular demand, or are we going to accept the other alternative, that of leadership, recognizing an educational and public need before it becomes a demand, perceiving the signs of the times, interpreting correctly "the handwriting on the wall," acting vigorously and fearlessly in the right as we see the right, in the strength of a faith which we feel sure will be justified by future results. Something should be done and done soon. The only question is, shall we act, here and now, or shall we wait and act in harmony with the organized profession, of the American Medical Association through its Council on Medical Education. It is for you to decide.

### MINIMUM ENTRANCE REQUIREMENT.

We believe, and therefore recommend, that the following should be adopted as the minimum preliminary entrance requirement[2] to the study of medicine. We also recommend that the confederation work in harmony with the Council on Medical Education of the American Medical Association, the American Confederation, the Association of American Medical Colleges and all committees and organizations of all legally authorized schools of practice.

**1. A high school diploma from a recognized high school, or its equivalent in the form of a certificate showing that the applicant has passed a satisfactory examination in all the branches usually embraced in the curriculum of a four-year high school course, said certificate to be either issued or passed on by some designated state official, such as the superintendent of public instruction, and not by any one connected with any medical college.**

**2. Satisfactory documentary evidence of having completed at least one year of not less than nine months' of work in chemistry, biology, physics and languages in either a recognized institution of learning chartered to confer liberal degrees, or in a recognized medical college, having a special additional year devoted exclusively to the above subjects, this requirement to apply to all students matriculating after Jan. 1, 1910.**

In the foregoing I have used the term "year of work." Following the important suggestion made by Dr. B. D. Harison, secretary of the Michigan Board of Examiners, something should be done to improve and render uniform our terminology in describing and defining work. As I understand it, the following terms are in use. The term "count" is used by New York, meaning one hour each week of class room work throughout the college year. The term "point" is used by the Association of American Medical Colleges, meaning thereby two recitations each week throughout the college year. The term "course" is used at Harvard, meaning three hours each week. The term "unit" is used by the Michigan board and by the Michigan university and means four hours each week throughout the year. To recapitulate: "Count" equals one hour each week; "point," two hours each week; "course," three hours each week and "unit" four hours each week. All mean a certain definite number of hours. Then why not say so. But if any term other than the word "hour" or "hours" is used, let it be the New York "count" because of its age and simplicity.

---

## THE TREATMENT OF EMACIATION.*

L. BREISACHER, M.D.

**Professor of Clinical Gastroenterology, Detroit Medical College; Consulting Gastroenterologist, Harper Hospital.**

DETROIT.

Almost daily, persons consult me whose one great sorrow in life is their condition of leanness or emaciation. They come to me with the request that I make them fat and plump.

A few of these persons are actuated in their request by the knowledge that their bodily strength and resistance have suffered as the result of their abnormal weight

2. This standard was unanimously adopted at the Boston meeting, June 4, 1906, and by the Illinois State Board of Health, June 20, 1906.

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

reduction. Others again recognize that their leanness is the expression of some digestive or metabolic disorder. With the great majority of persons, however, these matters are left out of consideration, their sole desire in wishing to become fat being to improve their personal appearance. The first writers who ventured on the subject of the treatment of leanness recommended that the individual be liberally fed, and with this advice we are indeed in the fullest accord, but, like almost all writers up to the present time, they have ignored the causes and the accompanying conditions of this difficulty.

Chapter on chapter has been written by dietitians on food values, fat producing foods, the possibility or impossibility of forced albumin feeding, etc., in reference to the treatment of leanness, but the underlying causes and a thorough consideration of the digestive and absorptive factors as well as the significance of medical treatment, have been entirely ignored.

### CAUSES.

Leanness may be the result of various causes. It may be of an apparently hereditary character, or it may be acquired and arise as a primary or secondary condition. The one great cause of leanness excluding diseases like tuberculosis, diabetes, nephritis, and cancer and conditions like stenosis and vomiting, is the ingestion of an insufficient amount of food. This may result from a primary or secondary loss of appetite or a repugnance to food in consequence of various disorders, or as the result of emotions like pain, grief, sorrow, etc. It may be the result of faulty dietetic habit which I have seen handed down through several generations in a number of families.

Frequently it results from an ignorance of the nutritive significance of particular foods, or from the effect of eating but one or two meals a day by persons not constitutionally fitted for that sort of régime. It may be the result of poverty or the attempt to economize. It may be due to sexual neurasthenia, hysteria and nervousness, especially in persons of a typically nervous temperament.

These latter causes together with digestive abnormalities have formed the basis of the great majority of cases of emaciation which have come under my observation. In an interesting paper, recently published, Cabot mentions arteriosclerosis and sleeplessness, which latter condition I have often noticed, at least as an accompaniment of other symptoms, in a number of my cases.

To the second group of causes belong the gastrointestinal disorders which may be either of mechanical, chemical or secretory origin. I have observed them as a primary or secondary cause in almost all of my cases. There is no doubt whatever that the foundation of this class of diseases, with the frequently resulting emaciation, is often laid at the time of the birth of the child when it is artificially instead of naturally fed. We may further add to this list of diseases producing leanness all the circumstances in general which produce digestive disturbances.

As causative agents in the production of leanness, I might also mention the improper metabolism of food and the increased oxidation of food after it has become an integral part of the blood. We can not define these conditions, however, with any degree of precision, and it is not our object in this place to enter into a speculative consideration as to the possible nature of these conditions.

It will thus be seen that many circumstances and conditions, either singly or combined, may operate in the production of leanness. Cases may belong to that class which we may ascribe to hereditary influence, and which result from habitual underfeeding which I have noticed in successive generations of different families; cases of apparently simple or primary leanness may, on examination, be found to rest on some undoubted physical or nervous basis.

### TREATMENT.

In the treatment of this condition it behooves us, therefore, to examine our patient thoroughly, and an examination is incomplete unless the state and degree of digestive activity have been accurately determined. One should know to what degree the stomach and bowels will bear forced feeding and what foods these organs will most readily digest and absorb. The selection of the kind and quantity of food and the determination of the quantity of liquids depend on these examinations.

With the absorptive and digestive activity of the stomach determined, and all other possible causes considered, I map out a diet list which will contain from 2,200 to 2,500 calories and gradually increase the amount until I reach a diet containing from 3,800 to 4,500 calories.

I strive to give from 100 to 250 gm. of fat in the form of milk, cream, butter, olive oil or emulsion; 100 gm. of fat equal 930 calories, 250 gm. equal 2,325 calories, If we add sufficient albumin containing food to amount to 150 gm. and carbohydrates amounting to 400 gm., the caloric value will be increased to 615 and 1,640, the entire caloric worth amounting to 4,580 calories. Thus:

| | | |
|---|---|---|
| Fat | 250 × 9.3 = | 2,325 |
| Albumen | 150 × 4.1 = | 615 |
| Carbohydrates | 400 × 4.1 = | 1,640 |
| | | 4,580 |

The question as to how much or how little albumin is to be selected and the nutritive value of the different naturally and artificially digested foods I have discussed in former publications and need not repeat in this article.[1]

I always resort to tonics, both vegetable and mineral, given either hypodermically or by the mouth, and, when the occasion demands, I push them to their physiologic limit. In nervous individuals, I always use nerve sedatives, never of course resorting to narcotics of any kind. The medicinal list includes iron, arsenic, gold, manganese, strychnin, gentian, cinchona, quinin, condurango, colombo, sumbul, bromid and valerian. I always resort to the tonic, reconstructive, stimulative and sedative, actions of these drugs, which, when combined with properly selected foodstuffs, determine the outcome of the case.

From time to time I estimate the excretory activity of the kidneys, and compare it with the entire water intake, which should be from 2,000 to 3,000 c.c. I lessen or increase the exercise as the case may require, and resort to frequent tepid baths, cold rubs, massage and electricity. On a régime of this kind, convalescents often gain weight so rapidly that it becomes necessary to reduce the diet. The chronically underfed usually require from two to six months of very careful manipu-

1. Breisacher: "Principles of Metabolism and Nutrition," Physician and Surgeon, November, 1900; also "Minimal Albumin Requirements in Health and Disease," THE JOURNAL A. M. A., vol. xlv, Dec. 9, 1905; "Artificially Prepared Foods," THE JOURNAL A. M. A., vol. xxxvii, Oct. 26, 1901; "Eiweissbedarf des Menschen," Deuts. med. Wochschr., 1900.

lation with the continuous coaxing of the digestive tract, and the constant tempting of the palate to achieve the desired result. Not only for an esthetic effect, but also as a prophylactic and curative means, the logical fattening of individuals is of an importance which can hardly be overestimated.

## MUCOID SALTS.*

WILLIAM J. GIES.
NEW YORK CITY.

We know practically nothing about the ways in which proteins are held in living protoplasmic structures. The molecules of the protein compounds are relatively so large that as yet our physicochemical methods of measurement are inadequate to give us correct ideas of molecular size and intramolecular structure, although we know considerable about the lifeless and, in some respects, comparatively meaningless fragments into which protein molecules may be broken. Our ignorance of the fundamental biochemic relations of proteins to the associated constituents of protoplasm appears to be largely due to our vague knowledge of the chemical statics and dynamics of true cellular proteins, a fact which serves as a constant stimulus to protein investigation.

Among the many protein substances the nucleoproteins and the glucoproteins are very important tissue constituents. The essential part of each natural type of these proteins, and the part to which the usual name is applied, appears to be a colloidal organic acid. The forms in which the acid radicals occur in cells and tissues have not been definitely made out, although it is natural to presume that the acid radicals are united directly to one or more distinctly basic radicals in each case, and that variations in the characters of such compounds are associated with physiologic as well as pathologic variations of cellular composition and tissue function.

I have endeavored to get to the bottom of this complicated matter, by making definite salts of these proteins with the aid of methods that could be relied on to leave the acid radicals unchanged. In this effort I have been encouraged by the hope that, by increasing our knowledge of artificial products, analogies with natural compounds would be not only more easily recognized, but also the characters and functions of the compounds in living protoplasm would be more thoroughly understood. Thus, at present, it is impossible to recognize satisfactorily the form or forms in which mucoid is contained in the connective tissues under either physiologic or pathologic conditions, nor are we able to explain, for example, the possible relationships of spermatic protamin (basic) and ovular mucoid (acid) to the more differentiated mucoid (acid) so conspicuous in embryonic tissue. I believe that a study of artificial products of such types as those referred to, will make it possible successfully to elucidate numerous problems awaiting solution, many of which my co-workers and myself have under investigation.

About five years ago I found that "when the electric current is passed through neutral or alkalin mucoid solutions (consisting of sodium or calcium salts of mucoids) turbidity results within a short time and flocks eventually form and can be filtered off." This observation was included in a preliminary report of work then in progress.[1] About the same time Huiskamp[2] had been making similar observations in connection with nucleoprotein salts from thymus. Shortly afterward, in preparing material for work in another connection, I[3] precipitated from an alkalin solution ($Na_2CO_3$) of mucoid with the aid of acetone, after failure with alcohol, a water-soluble compound, apparently sodium mucoid. This fact has not been published hitherto, although it was stated at that time that organic compounds such as gelatomucoid had been obtained.[4]

I have lately prepared calcium, sodium, potassium and ammonium salts of mucoids by the following process: The glucoprotein was obtained in slightly alkalin solution. This solution was dialyzed until neutral and then was poured into a large excess of 95 per cent. alcohol, by which treatment the mucoid was immediately precipitated. Initial purification was effected by resolution, dialysis and reprecipitation. The products were rendered anhydrous by treatment with absolute alcohol and ether. Probably all bases yield such salts, although, for the present, I shall confine my remarks to the simple inorganic salts mentioned.

The comparatively pure inorganic salts of the mucoids already prepared are light, snow-white powders. They dissolve in water very readily and are dissociable products. The concentrated solutions resemble mucus. The aqueous solutions are neutral to litmus and acid to phenolphthalein. Ammonium compounds have been prepared that were acid to litmus also. The calcium salt yields about 12 per cent. of ash, whereas the corresponding mucoid is practically ash-free. It is very probable that the mucins in the secretions occur in the form of such salts, as Müller has already suggested. Yeast nucleoprotein has also yielded similar products. Presumably other nucleoproteins will be found to do so also.

I believe these observations clear the way for important discoveries connected with the glucoproteins, nucleoproteins, proteinates and similar protein products. The best method of preparing the compounds referred to has not yet been definitely ascertained, but I hope to describe it in detail at an early date.

## EXPERIMENTAL CEREBROSPINAL MENINGITIS AND ITS SERUM TREATMENT.*

SIMON FLEXNER, M.D.
NEW YORK CITY.

Cerebrospinal meningitis prevailed as an epidemic in Greater New York City during the winter of 1904 and the spring of 1905. Since that time up to the present writing, sporadic cases of meningitis still arise. In the spring of 1905 the Health Department of New York City appointed a commission to co-operate with the department in investigating the epidemic. As a member of the commission I undertook an experimental investigation of meningitis out of which the preliminary report has grown. The full report of this investigation will appear in a forthcoming number of the *Journal of Experimental Medicine.*

---

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

*From the Laboratory of Physiological Chemistry of Columbia University, at the College of Physicians and Surgeons, New York City.

1. Mead and Gies: Am. Jour. of Physiol., 1902, vol. vi (Proc. Am. Physiol. Soc., 1901, p. 28); also Gies and collaborators: "Biochemical Researches," 1903, vol. i, p. 53.

2. Huiskamp: Zeits. f. physiol. Chemie, 1901-02, vol. xxxiv, p. 32.

3. Gies: Am. Jour. of Physiol., 1903, vol. viii, (Proc. Am. Physiol. Soc., 1902, p. 13); also "Biochemical Researches," 1903, vol. i, p. 54.

4. Gies: Loc. cit.; also, Posner and Gies, Am. Jour. of Physiol., 1904, vol. xi, p. 404.

* From the Rockefeller Institute for Medical Research, New York.

The bacteriologic examination of the exudates from the meninges, obtained by lumbar puncture and at autopsy, showed the epidemic to be caused by *Diplococcus intracellularis* of Weichselbaum. My work was done almost entirely with this micro-organism. The sources of my cultures were the following: Dr. E. K. Dunham, Dr. Martha Wollstein and Dr. E. P. Bernstein. From Dr. Dunham I obtained a large number of cultures which he isolated from cerebrospinal fluid and the nasal mucous membrane of patients; from Dr. Wollstein I obtained cultures isolated at the Babies' Hospital, and Dr. Bernstein supplied me with cultures from patients at Mt. Sinai Hospital. In a few instances I made my own isolations from freshly-drawn cerebrospinal fluid. The large number of cultures of the diplococcus, or similar organisms, which were examined could not all be tested on animals. The biologic characters of a larger number of cultures than could be tested for their pathogenicity were studied. *Diplococcus intracellularis* possesses biologic characters which permit of its identification with a high degree of certainty. The cultural appearances on the usual media, temperatures of development, actions on sugars and brief viability, under ordinary conditions, all tend to distinguish the intracellularis among the wide group of non-Gram-staining diplococci. The brief vitality of many cultures of the intracellularis is a point of high differential importance. Many strains, grown on a favorable medium, unless transplanted to a fresh medium, do not survive beyond two or three days. Indeed, these transplantations do not succeed, frequently, unless considerable quantities of the growth are carried to the fresh tubes, an indication that only a fraction of the cocci have survived, or are still capable of multiplication. Vigorous fresh cultures of 16 to 24 hours' growth stain sharply and uniformly. On the second day the cocci show irregularities in staining and size, unless they have been carefully preserved from evaporation and fluctuations of temperature. Cultures three days old show marked degenerations, and these increase rapidly with age until, at the end of five or six days, no normal cocci persist. Even with very careful preservation the great majority of the cocci do not survive beyond this brief period. A few cocci, in carefully preserved cultures, may survive for many months. The appearance of old cultures is characteristic. At the beginning of the degeneration swollen-deeply-stained cocci occur among the smaller but usual forms, which take the stain less intensely than fresh cultures. As degeneration progresses loss of nuclear-staining and disintegration occur, until, finally, staining power is entirely lost and a formless detritus remains.

If a vigorous culture of the diplococcus is suspended in 0.9 per cent. salt solution and the suspension is kept at 37 degrees C., the cocci slowly undergo the changes described. Since in such a fluid medium evaporation goes on slowly and alterations in concentration are consequently small, the cocci degenerate less rapidly than when grown on the surface of solid media. Finally, the salt suspension of cocci also degenerates. If, however, to such a salt suspension a few drops of toluol be added and mixed with the fluid by agitation, the process of disintegration is greatly accelerated. Such a suspension, kept at 37 degrees C., may be wholly disintegrated at the expiration of 24 hours. The conclusion which may be drawn from this observation is that *Diplococcus intracellularis* possesses a highly potent autolytic ferment which tends, once the cocci are dead, quickly to cause disintegration of the micro-organisms. I noticed repeatedly when I transplanted thick suspensions of old cultures to fresh media that the turbid fluid became clear after a few hours, indicating solution of the bacterial substance in the new fluid used to dilute the original growth. I made some comparisons of the rapidity and degree of disintegration of the cocci which take place when the salt suspensions of cocci are toluolized and occasionally agitated and when they are not killed outright, but are shaken continuously for several days. The disintegration is much more rapid and complete in the toluolized specimens. The autolytic ferment is destroyed by heating the suspensions to 65 degrees Centigrade.

This great susceptibility of *Diplococcus intracellularis* to changes in osmotic conditions, and possibly to variation in temperature and accumulation of products of growth, separates it from a large number of non-Gram diplococci of various origins. The slight vitality of the diplococcus is bound up with this susceptibility. I noted the fact, at the beginning of my experiments, that cultures placed on ice might be dead in less than 24 hours. Later I made a few experiments on the viability of the cocci in thick, salt solution suspensions kept in a refrigerator the temperature of which varied from 2 to 4 C. In this case many living cocci were still present at the end of five days.

I secured a considerable number of non-Gram diplococci from human beings and animals which differed from *Diplococcus intracellularis*. Some of the former came from the nasal cavity of persons, children chiefly, suffering from epidemic meningitis. Others came from healthy persons who had not been exposed to cases of meningitis. A few cultures of so-called *Micrococcus catarrhalis* were sent me by other bacteriologists. In connection with the investigation of the Department of Health I had my assistant, Mr. Ward, study a number of domestic pets—cats and dogs—obtained from the houses in which cases of meningitis occurred. Several of these animals yielded cultures of diplococci which were decolorized by Gram's staining method. An autopsy on a case of cerebrospinal meningitis, the child having died in the sixth week of the disease, yielded a non-Gram diplococcus which belonged to this group. A few colonies of the coccus were obtained from the bronchial lymph glands, lungs, antrum and medulla oblongata, the last being covered with a thick exudate. All these cultures differed from the examples of *Diplococcus intracellularis* in not tending to undergo the rapid degeneration and disintegration described for that organism. Associated with this difference were the further differences that they grew from the first on media to which blood in some form had not been added and were viable over a long period of time—often for many weeks. They were, further, either devoid of power to ferment sugars or they possessed wider or more vigorous fermentative powers than the intracellularis.

A toluolized salt solution suspension of *Diplococcus intracellularis* quickly disintegrates, as has been stated. This fluid, deprived of its toluol by evaporation at a low temperature, and centrifugalized at high speed to remove solid particles, is toxic. The toxic constituents pass through unglazed porcelain (Berkefeld filter). The toxic effect of this fluid can best be studied on young guinea-pigs. Selecting pigs of 125 grams weight or less for the test, the degree of toxicity will depend on the strength of the original suspension of cocci. If the entire growth on the flat surface of a one-pint Blake bottle be suspended in a 10 cubic centimeters of salt solution

the lethal 18 to 24 hour dose given intraperitoneally will be from 0.5 to 1 cubic centimeter. The lesions which result are similar to those caused by injections of living suspensions of cocci, except that fibrin may not appear.

The activity of this extract can be shown in still another manner. Since Bail's work on aggressins, so-called, and Wassermann's and Citron's observations on extracts of bacteria in promoting infection, we have learned that the pathogenic effect of bacteria may be intensified by combining them with these products. Guinea-pigs which have been inoculated simultaneously with living cultures and the autolysate of the cocci succumb more certainly and are subject to smaller doses of cocci than animals given the cocci alone. Intraperitoneal injections of the diplococcus in guinea-pigs gives rise to the production of an exudate which exerts an action similar to this extract in promoting susceptibility to the coccus.

As tested on laboratory animals *Diplococcus intracellularis* is a micro-organism of low and variable pathogenic action. Small guinea-pigs are, I found, more useful than mice for studying the effects of the cultures. The difference in susceptibility of guinea-pigs, according to weight, is very large. Guinea-pigs of 175 to 200 grams weight proved highly susceptible to the cocci as compared with pigs of 350 to 400 grams weight. Pigs of 250 grams are still useful for these tests, while full-grown pigs are highly refractory.

Not all cultures of the diplococcus, even in the first generations, are pathogenic for the small pigs, unless, indeed, very large quantities be injected. Speaking generally freshly isolated cultures are pathogenic, while cultures grown for a period on artificial media are not. Occasionally a strain of the coccus will retain its pathogenicity for many months, but, as a rule, the power is lost after the first transplantations extending over a few weeks. I have worked with cultures which have deteriorated in a few days, and one culture (Smith) retained its power undiminished for many months, to lose it in the end. This culture was passed through many mice, guinea-pigs, and monkeys during its active period, but, after its activity was lost, it could not be restored by passage through mice and guinea-pigs. It still yields an active extract and can be used as an adjuvant to living cultures. No increase in power was produced by passing it through ten successive generations in a medium consisting of bouillon and serum of a goat immunized to the diplococcus.

The reaction to inoculation, in the guinea-pig, varies with the degree of pathogenic power possessed by the strains of the coccus. In my studies I found it necessary to adopt a standard strength of culture to be inoculated. It was not readily possible to obtain uniform growths on agar-serum surfaces; hence I prepared from the large flat surfaces a suspension in salt solution which had a uniform degree of turbidity. The suspensions should be made from freshly-grown cultures (preferably under 24 hours old) and used soon after preparation. It is unsafe to carry suspensions over until the next day, unless a new determination of their strength be made. Partial deterioration quickly sets in.

The standard dose of the suspension varied, as a rule, from 0.1 to 0.5 cubic centimeter, for the small pigs, by intraperitoneal inoculation, and death occurred in less than 24 hours. Active cultures, in this strength of suspension, may cause death, in the smallest dose given, in 8 to 10 hours. A culture which in a dose of 0.5 cubic centimeter requires 24 hours to kill is one of weak virulence. In the course of any large series of experiments irregularities occur. It has happened that a guinea-pig of a series died in 4 hours and another survived 36 hours. But these irregularities can be ruled out by making duplicate inoculations. Among survivals it happens occasionally that death takes place after several days and is preceded by a state of great emaciation.

The most important lesions exist in the peritoneal cavity. Excluding the two extremes (death in 4 hours or after several days) the appearances and conditions present are uniform. It is the rule for the pigs of a series to succumb in about the same period, within one or two hours of each other. Where the coccus causes death in 12 to 14 hours the results are likely to be very regular. Greater irregularities occur where death is delayed until 24 hours after inoculation.

Fluid exudates into the cavity of the peritoneum are the rule, and more or less fibrin and pus covers the anterior surface of the liver and is present in the rolled up omentum. In gross appearance there is not great distinction between the animals succumbing in 12 and in 24 hours. But microscopic examination shows the difference to be considerable. It is the virulent cocci which bring on the more rapid forms of death. The exudate in this case shows many, often prodigious, numbers of cocci. The appearances are indicative not only of preservation of the injected cocci, but are suggestive of their multiplication. In the case of the less virulent cocci, the exudate contains fewer micro-cocci and may be devoid of them. Even when death occurs in the short period mentioned, the number of cocci is likely to be small. In other words, virulence and resistance to destruction go hand in hand. A relatively non-virulent strain of coccus may still be toxic, but has little or no capacity to resist disintegration and none for multiplication in the peritoneum. Hence two appearances are met with between which transitions occur. When the strain of coccus is actively virulent multiplication in the body probably takes place, but in any case there is only slight dissolution of the injected micro-organisms, and cultures are positive. Death usually takes place early, and it is rarely that a more resistant pig survives beyond the usual period, and even then cocci are still present in numbers. When the strain of coccus is little virulent it tends from the beginning to disintegrate, and, even if the animal succumbs early, the peritoneal cavity may be devoid of micro-organisms, or, should a small number still be present, they often do not develop in cultures. The more virulent cocci invade the blood and tissues and can be cultivated from the blood, internal organs, bone marrow, etc.; the less virulent cocci are not found in the interior of the body.

I have made some observations on the strength of the toxic fluids yielded by different strains of cocci through autolysis, and they indicate that these fluids have not the same absolute strength. The more virulent cocci yield, at times, an autolysate of greater toxicity than the less virulent micro-organisms. In view of the adjuvanting effect of the autolysate it may well be that it is this potent toxic extract which makes the former cocci survive and multiply in the body, for a part of them undergoing dissolution could supply the necessary autolysate to reduce the resistance of the animal. In case of the cocci of small virulence, the lethal action is, according to this view, due wholly to the liberated endotoxin for which larger quantities and longer time are required.

I have made some experiments on the dissolving power of the peritoneal exudate, from guinea-pigs, on the diplococcus. The fluid exudate is removed and freed from cells by centrifugalization. It possesses high digestive powers for the cocci. Mixed with fresh cultures many of the cocci are killed and disintegrated, and the cocci in the mixture which has been toluolized undergo dissolution much more rapidly. Enormous numbers of cocci can be digested by the exudate, which is increased in toxicity thereby. The dissolution of the cocci in the toluolized exudate goes on much more rapidly than in salt solution. The exudate heated to 58° C. for from 30 minutes to one hour has the same digestive action as before on fresh cultures and on cultures heated to 65° Centigrade. It is, therefore, assumed that its action is enzymotic. The blood serum of the guinea-pig has not the power to digest the cocci.

A measure of the reaction of the guinea-pigs is found in the emigration of leucocytes. In the cases of rapid death with preservation of the cocci the emigration is slight or wholly absent, while in the cases of slower death and disappearance of cocci the emigration is considerable. Many transitions between these extremes exist. When emigration is at all marked, even with an almost entire preservation of the cocci, phagocytosis has taken place. Where there has been considerable, although not total, disappearance of cocci, phagocytosis is more abundant. Phagocytosis is a function of emigration, but it is not a measure of this condition. The disappearance of the cocci from the peritoneal cavity does not depend wholly on phagocytosis. I believe that the cocci may be removed without the intervention of phagocytosis, probably through self-digestive action and digestive action of the inflammatory exudate.

The leucocytes are numerous, frequently, in the omentum and every fibrinous exudate, while they are few in number in the peritoneal fluid. The clear peritoneal fluids contain few leucocytes relatively; the turbid fluids contain many. Since the turbid fluids occur in animals surviving the longer periods, there is relation between degree of virulence and emigration. But since the emigration is more abundant in those animals in which the cocci quickly disintegrate, it would not seem to be wholly called forth by the need for phagocytosis. The toxic extracts of the cocci cause fluid exudations into the peritoneal cavity, but not turbid ones, so far as I have seen. Possibly fragments of the bacterial bodies present in injections of cultures and absent from centrifugalized and filtered autolysates attract many leucocytes. The leucocytes of the omentum are large and pale, and those of the peritoneal fluid small and dense. Their nuclei are often irregular in form or fragmented. Cocci are common in the protoplasm and rare in the nuclei, and they show all transitions from well-preserved organisms to fragments and swollen, metachromatic bodies.

The main visceral lesions met with in the pigs are (1) vivid congestion or hemorrhages of the adrenal glands; (2) hemorrhages into the mesentery and central tendon of the diaphragm; (3) gelatinous edema of the pancreas and peripancreatic tissues.

At the beginning of this investigation I had the plan of using monkeys to reproduce the lesions and symptoms of cerebrospinal meningitis in man. Some of my earliest experiments were made on these animals. The cultures were introduced into the spinal canal by means of lumbar puncture. The injection was made commonly in the canal at the level of the third lumbar space. This space is not below the level of the cord in many monkeys, but I have never had paralysis follow my inoculations. My first experiments were successful in producing acute leptomeningitis from which the animals died. The symptoms in different animals were depression, coma, convulsions, nystagmus, opisthotonos, etc. The experience which I was obtaining with guinea-pigs was of much use to me in the work on monkeys. The variable virulence of the cocci affected, at the beginning, the successful experiments with monkeys, as it did with guinea-pigs. By choosing suitable strains of the coccus I succeeded in inducing severe and fatal leptomeningitis in a large number of monkeys. Through the use of lumbar puncture, in the course of the disease, I studied the manner of reaction of the animals and the fate of the micro-organisms. I shall give in this place the protocol of my first experiment on monkeys, since it represents a typical case.

*Macacus nemestrinus*, May 12, 1905, 10:30 a. m. A good-sized monkey was etherized,[1] after which a needle was introduced into the spinal canal; clear, watery fluid escaped from the needle. A culture eighteen hours old of the *Diplococcus intracellularis*, in its first generations, on Loeffler's serum, was injected. The culture consisted of many discrete colonies and had been suspended in 2 c.c. of salt solution. The monkey quickly recovered from the operation. Six hours later it appeared to be sick; at 6 p. m. it no longer sat on its perch; 9 p. m., still on bottom of cage; head down, appeared very sick; on being disturbed it moved slowly. Death during the night. Survived injection probably eighteen to twenty hours.

*Autopsy*, 9 a. m., May 13: The internal organs, except the nervous system, showed no striking lesions. Brain and cord: No marked excess of fluid in the meninges. Convex surface of the brain greatly congested, punctiform hemorrhages in the pia arachnoid and superficial portion of the cortex. No definite exudate on the convex surface of the convolutions, although the pia of the sulci appeared white and slightly thickened (probably an old condition). A focus of softening, or an abscess, the size of a large pea occurred to the right of the superior longitudinal sinus in the convolutions anterior to the motor area and just beneath the membranes. The base of the brain was covered with an opaque exudate, white in color, which extended over the medulla and anteriorly to the optic commissure. The lumbar and thoracic portions of the spinal cord were covered, posteriorly chiefly, with an opaque, white exudate. The diplococcus was recovered in cultures from the exudate of the spinal cord and base of brain and from the blood of the heart. Smear preparations from the exudates showed large numbers of polymorphonuclear leucocytes, many of which contained the diplococcus, and they showed diplococci lying free in the exudate, The softened focus contained masses of leucocytes and enormous numbers of the diplococci. The microscopic examination of sections of the inflamed brain and cord showed the existence of an acute fibrino-purulent exudate within the pia arachnoid and a superficial encephalitis.

By means of this and later experiments it was shown that the lower monkeys could be infected without great difficulty with *Diplococcus intracellularis* and made to reproduce the pathologic conditions present in man in epidemic cerebrospinal meningitis. The experiments proved that the cocci, when introduced into a low level of the spinal canal, would distribute themselves in a few hours through the meninges and excite an inflammation, the exudate of which accumulated chiefly in the spinal meninges and the meninges of the base of the brain. The uniformity with which the chief exudate was found at the base of the brain and the rarity of its appearance in considerable amounts over the convexity led me to doubt the validity of the reasoning which ascribed this localization in man to the entrance into the meninges

1. In later experiments ether was not used, since the operation gave little pain.

of the infective agent directly through the nasal mucous membrane. This tendency to localization at the base of the brain in monkeys is especially interesting in view of the fact that it is usually only a short time before death that they lie down on the side. In comparing the experimental lesions in the monkey with the naturally developed lesions in man note should be taken of the occurrence, under both conditions, of encephalitis and of abscess formation, due to the invasion of the substance of the nervous tissue by the diplococcus.

In contrast to the ease with which the acute inflammation can be excited is the difficulty which attends the production in the monkey of a subacute form of meningitis. The intraspinal injections produce either an acutely fatal meningitis or an acute disease from which recovery takes place rapidly. The animals which survive inoculation are usually well of the disease in three or four days. In rare instances the animal lingers a victim of the disease for a longer period than this to succumb in the end. Monkeys which survive the second day after inoculation tend rather to recover than to die. By following in inoculated animals the changes in the spinal canal by means of lumbar puncture, the progress of the infection can be traced and the final result often predicted. There is much similarity between the changes occurring in the spinal canal of monkeys and those in the peritoneum of guinea-pigs. The most striking difference is the greater degree of phagocytosis that takes place in the spinal canal, although the cocci are not all removed in this manner and the same difference in resistance to destruction, depending on virulence, is found in both animals.

Disappearance of cocci early from the spinal canal is a good sign; early emigration of leucocytes is also a good sign; early emigration, active phagocytosis and dissolution of the cocci, both within and without the leucocytes, are very favorable signs. And just as in the guinea-pig death may take place in spite of the entire disappearance of cocci from the peritoneum, the monkey may succumb, although cocci cannot be found either in smears or obtained in cultures from the inflamed membranes.

By following in this manner the results of inoculation I have been able to keep a small number of monkeys in a state of subinfection for several weeks with the diplococcus. The period of successive inoculating was determined by the puncture and by the physical condition of the monkey. A state of resistance tended to develop, which necessitated the use of increasing amounts of cultures to produce visible effects, and in the end the run-down animal succumbed—usually from an inoculation with an overdose of cocci. In these animals the exudates were thicker and firmer, and covered the base and convex surface of the brain. The ventricles were widely dilated and contained turbid exudate.

Although the pathologic effects produced in these monkeys are comparable to those occurring in the natural disease in man, there is no real correspondence in the relative susceptibility to *Diplococcus intracellularis*. The quantity of an active culture required to cause marked symptoms or bring about death from meningitis in monkeys is prodigious if compared with what probably happens in the human infection. Moreover, the amount of multiplication of the cocci in monkeys is, under the most favorable conditions, small, and I am disposed to think that in many of the experiments no multiplication whatever took place. In the case of abscess formation I believe multiplication of the cocci to occur. Experiments are in progress to determine to what extent the symptoms and lesions of meningitis can be produced by means of the soluble poison yielded by the cocci.

The inflammation of the meninges extends in monkeys into the membranes covering the olfactory lobes, and, as I have made out by means of smear preparations, into the ethmoid cells and into the nose. The nasal mucous membrane is found, in some instances, to be inflamed and beset with small hemorrhages. Smear preparations have shown me polymorphonuclear leucocytes, often in large numbers, carrying diplococci, which presented the form, size, staining qualities and degenerations of the cocci occurring in the same cases in the cerebral and spinal meninges. I failed in two attempts to cultivate the cocci from the nose, owing possibly to the extraneous bacteria present. On account of the bearing which the passage of the diplococci from the meninges into the nose would have on the epidemiology of meningitis, it is intended to repeat the effort at cultivation of the cocci from the nasal passages.

Notwithstanding theoretical discouragements, an investigation of the influence of antisera on the experimental infections with the diplococcus was undertaken. I assumed that the main pathologic phenomena played themselves out in the localities in which the cocci were injected, and hence as the sera could be brought directly into relation with the foci of infection, possibly a benign effect might be excreted.[2] I was influenced, too, by the consideration that in man the chief organic lesions of epidemic meningitis are present in the meninges, and appear only later, possibly, in the brain and cord, and in many cases the bacterial development is not very great. There was another consideration to be taken into account, for if the experimental disease in the monkey could be arrested by the injection of antisera into the spinal canal, and it proved that no ill effects followed the injections, the advisability of making similar injections might be thought of, possibly, even in human beings suffering from cerebrospinal meningitis.

The experiments with antisera, the results of which will be briefly given, were more satisfactory than I had expected they would be. They do not, however, represent conclusions, but merely the beginnings of an investigation into this important and difficult field of study.

The antisera were prepared in rabbits, goats and large monkeys. The rabbits were injected with single strains, the goats with many strains of cocci. The monkeys were injected with cocci and exudates (aggressin) from the peritoneal cavity of guinea-pigs. The rabbits proved poor animals for the work, as they developed hypersensibility to the injections, from which many died. They had the further disadvantage of yielding small quantities of serum. The goat proved a satisfactory animal to immunize, since it bore the injections well and developed an agglutinating serum in a relatively short time. The early experiments showed that rabbit serum was very poisonous for guinea-pigs when injected into the peritoneum in doses above 0.5 c.c. The first tests of the protective powers of the goat's serum were made with the serum obtained at the bleeding on Nov. 18, 1905. The guinea-pigs were of 250 gm. weight. Serum injections were made (1) twenty-four hours before the cocci were injected, and (2) simultaneously with the injection of the cocci. The pigs receiving the serum

2. It is now known that the diplococcus appears in the circulating blood in epidemic meningitis. It is noteworthy that the diplococcus invades the blood from the spinal canal in inoculated monkeys.

survived; the control pigs died. The quantity of goat's serum used was 1 c.c., and the injections were made intraperitoneally or subcutaneously; the cocci were injected into the peritoneal cavity. The next test of the serum was made three days later. The serum was given again subcutaneously and intraperitoneally, and, besides the ordinary controls, a set in which bouillon was injected was also employed. The cocci were injected thirty hours after the serum and bouillon. The control pigs, including those given bouillon, died during the night. The pig given 0.1 c.c. of the serum into the tissues of the back died in about the same time. The pigs which received 0.1 c.c. of serum intraperitoneally and 1 c.c. subcutaneously survived. The next experiment to be reported was made Feb. 26, 1906, with the serum of a rabbit injected with the diplococci and guinea-pigs' aggressin. The control pigs died in from fourteen to seventeen hours. The antiserum was given simultaneously with the cocci, and the pigs receiving 0.1 c.c. intraperitoneally and 0.5 c.c. subcutaneously survived, while those given 0.5 c.c. intraperitoneally and 0.1 c.c. subcutaneously survived longer than the controls, but finally died. Thus it is seen that by preceding the injection of cocci with a prophylactic dose of serum, or by injecting serum and cocci simultaneously, the lives of the guinea-pigs can be saved. Dosage of rabbit serum is important. Too little serum fails to protect, and too much serum, at least in case of rabbit serum, prejudices the result by reason of its own toxicity. Therapeutic tests were made with antiserum from the rabbit, with the result that some pigs were saved with a dose of 0.5 c.c. one hour after infection. When this dose was exceeded the serum poisoning accelerated the fatal action of the cocci. After several months' additional injection of the goat its serum was again tested. The bleeding of March 14, 1906, was used in the subsequent experiments. This goat's serum was found to be certainly protective by simultaneous injection in doses of 0.1 c.c. and variably protective in doses of 0.02 to 0.01 c.c. It was also effective as a therapeutic application when given intraperitoneally in a dose of 0.1 c.c. two hours and four hours, respectively, after injection. Infected pigs could not be saved by means of subcutaneous injections of even larger quantities of serum after the lapse of several hours. The difference which the time interval makes is shown by the loss of weight (25 per cent.) suffered by the pig treated four hours after infection.

The first test of the goat's serum on the monkey was made on Dec. 2, 1905. Two spider monkeys (South American) were inoculated at 12 o'clock noon with cultures of the diplococcus. At 3 p. m. the same day one was given 2 c.c. of the serum into the spinal canal. Both animals became very sick; the control monkey finally recovered and the treated monkey succumbed during the night. The serum-treated animal became rapidly worse after the serum injection, showing the ill effect of the injection. The lesions found at autopsy were very severe and of a character which was taken to indicate that goat serum can not be injected with impunity into the inflamed spinal canal of the monkey.

Two large monkeys (*Macacus nemestrinus*) were immunized, as stated, for the production of an homologous serum to be tested chiefly on monkeys by intraspinal injection. Injections of diplococci and of exudate (aggressin) from guinea-pigs were made during a period of nine months. The animals were bled June 15, 1906, and the serum tested. A series of five monkeys (*Macacus rhesus*) was treated with the serum, a control animal having been inoculated in each case. These experiments will be given in brief form. The control monkeys for each experiment succumbed. Before giving the protocols of these experiments it should be stated that, with one exception, the same strain of coccus was employed. It was found that of the standard suspension 0.5 c.c. caused death in about fifty hours and 1.0 c.c. in twenty-two hours. For the serum tests the larger dose was used.

*Experiment*, July 3, 1906: Medium-sized *Macacus rhesus* given at 11 a. m. 1 c.c. emulsion of diplococcus No. 596, together with 1 c.c. of monkey antiserum No. 1. Fluid flowed from the needle before injection. July 4, 9 a. m., monkey appears normal, active, on perch. Lumbar puncture yields several drops of faintly turbid fluid, which shows on cover slips free diplococci and leucocytes in moderate numbers, some of which contain diplococci, staining poorly. Cultures from the fluid negative. July 5, 11 a. m., monkey apparently well. Lumbar puncture gave a small amount of clear fluid, which contained neither leucocytes nor cocci. Cultures negative. July 10, the monkey remains well.

*Experiment*, July 5, 1906: Medium-sized *Macacus rhesus* given 1 c.c. suspension of culture No. 596 at 11:45 p. m. Fluid flowed from needle before injection. At 2 p. m. the monkey was sick. Lumbar puncture gave a small quantity of rather thick, opaque fluid. One cubic centimeter of immune serum injected rapidly. Immediately at conclusion of injection pressure symptoms of an alarming character developed. The animal was prostrated for two hours, after which it slowly got better. At 6 p. m. it responded to disturbance. At 8 a. m. next day the monkey was up and appeared well. It remained so subsequently. The cover slips from the exudate of the lumbar puncture showed many polymorphonuclear leucocytes and a small number of lymphocytes, many extracellular and a few intracellular diplococci.

*Experiment*, July 13, 1906: Moderately large *Macacus rhesus* given at 11:15 a. m. 1 c.c. emulsion of coccus No. 596. Although no fluid was obtained, the canal was certainly entered; 4 p. m., animal sick; 5 p. m., depressed, but still sits up. Lumbar puncture gave a small quantity of turbid fluid, but during the operation the animal collapsed; 1 c.c. of serum injected slowly. The monkey was watched until 10 p. m.; no progress of the disease. July 14, 10 a. m., animal appeared well. No future symptoms developed. The fluid obtained by lumbar puncture showed many leucocytes with an occasional intracellular coccus, and extracellular cocci.

*Experiment*, July 27, 1906: At 8:45 a. m. a medium-sized *Macacus rhesus* was given one full agar slant culture No. 610, eighteen hours old, suspended in salt solution, into spinal canal. Fluid obtained before injection. At 11 a. m. 5 c.c. of antiserum from monkey No. 2 was injected into the skin of the thigh. Before the serum injection the animal was sick; it lay half down on the bottom of the cage. No immediate effect followed from the injection, but the symptoms did not progress. The next day the animal appeared well. Lumbar puncture was unsuccessful after the injection until the next day, at which time clear fluid, containing neither cocci nor leucocytes, was obtained. The control for this monkey was a much smaller and weaker monkey of the same species, which succumbed in eight hours.

I do not regard this experiment as entirely free from doubt, but as I was unable to obtain more monkeys at this time the experiment could not be repeated.

This series of experiments was, up to this point, successful. But I must record a failure under conditions which, in view of the foregoing successful tests, was wholly unexpected:

*Experiment*, July 20, 1906: Medium-sized *Macacus rhesus* given at 12 m. 1 c.c. of emulsion of coccus No. 596; 3 p. m., 1 c.c. of antiserum injected intraspinally. This monkey was sick when given the serum and the symptoms progressed fairly rapidly. At 11 p. m. the animal was much prostrated and sat in the cage with head depressed. It died about 7 a. m., July 21. The autopsy showed a very unusual amount of exudation in

the membranes of the cord. Cover-slip preparations showed a purulent exudate with large numbers of cocci, all of which were within polymorphonuclear leucocytes. The exudate in the meninges of the brain and cord showed the same condition of complete phagocytosis, although the number of leucocytes and cocci was smaller. The fluid withdrawn by lumbar puncture before the serum injection contained large numbers of diplococci and very few leucocytes; an occasional leucocyte contained diplococci. Cultures from the meninges of the cord, medulla and cortex and from the lateral ventricle were positive; those from the heart and bone marrow of the femur were negative.

In describing the characteristic lesions in the guinea-pigs the occurrence of hemorrhages in the mesentery, diaphragm and adrenals were noted. It was found that the antiserum prevented the appearance of these lesions, even when they failed to save the inoculated pigs. The immune serum from the monkey was effective in the guinea-pig, although this serum possesses apparently greater native toxicity for guinea-pigs than goat serum.

The experiments here briefly described have, possibly, some value in aiding us to understand better the manner in which *Diplococcus intracellularis* brings about its peculiar effects in human beings. They would also seem to show that the diplococcus is an organism possessing highly interesting and very peculiar biologic properties. The special experiments dealing with the prophylactic and therapeutic properties of antisera prepared from the diplococcus are sufficiently encouraging to be more widely and closely studied. In how far the results obtained on guinea-pigs and monkeys can be applied to the prevention and treatment of cerebrospinal meningitis in man it is not safe to predict. Should further experiments show that subcutaneous or intravenous injection of antisera can modify favorably the experimental disease in monkeys, the case would be not without hope. I do not think that the injection into the spinal canal of man of alien sera should be undertaken until their physiologic action has been worked out in more detail in monkeys. Were it practicable to employ monkeys for producing the antisera to be used in man, the danger of serum intoxication might be lessened, while the good effects of the immunity principles were retained. It is my intention to continue the studies already begun along these lines.

## TUMORS OF THE CAROTID GLAND.

W. W. KEEN, M.D., LL.D.
Professor of Surgery, Jefferson Medical College.
and
JOHN FUNKE, M.D.
Demonstrator of Morbid Anatomy, Jefferson Medical College.
PHILADELPHIA.

(*Concluded from page 479.*)

### PATHOLOGIC PART BY DR. FUNKE.

A knowledge of the normal gland would facilitate the study of the tumors arising from the carotid gland, but the lack of this information has led to the existing confusion with regard to the classification of the neoplasms. Then, too, the obscure embryology adds to the confusion.

### EMBRYOLOGY.

In 1881 Stieda[23] attempted to enlighten us on this question. He found a triangular cell collection connected by means of a fine fibrous strand with the mouth epithelium on the one hand and with the thymus gland on the other. In embryos of 36 mm. the cell collection was round and no longer connected with the structures just named. The cell collection, he holds, gives rise to the carotid gland. In sheep embryos of 10 and 11 mm. the gland is first seen as a thickening of the posterior portion of the horizontal branch of the branchial cleft, from the superior part of which the thymus develops. Like Stieda, Rabl (cited by Paltauf[2]) holds this organ to be epithelial in origin. He found in mammifera and in birds that the endoderm of the third branchial cleft furnished the ventral diverticulum for the thymus and a dorsal bud for the intercarotid gland. Pierre de Meuron,[24] holding that the carotid gland develops from the third branchial cleft, found it in sheep near the bifurcation of the carotid artery, but in embryos of 18 mm. it was not separated from the thymus. Born[25] is inclined to believe that the structure described as the carotid gland by these authors separates from the parent body and develops into the accessory thyroids. Contrary to the views of the authors who hold the organ is of epithelial origin, Fischelis[26] maintains that the carotid gland develops from the tissues lying between the approximating ectodermal and endodermal layers, but it does not develop from epithelial structures. Katschenko,[27] who, perhaps, has done, if not the most recent, the most thorough work in this direction, takes the ground that the carotid gland arises from a slightly thickened portion of the adventitia of the internal carotid artery near the bifurcation of the common carotid, and that the first evidence of the structure is seen in embryos of 14 and 15 mm. as an ellipsoidal body composed of loosely woven, richly cellular connective tissue. In embryos of 30 mm. he found the portion of the gland nearest to the bifurcation thickened, while that part farthest from this point was thinner; in still older embryos the gland was found nearer the bifurcation. The structure described by Stieda, Rabl and Pierre de Meuron, according to Katschenko, was the upper part of the thymus anlage—the *nodulus thymicus*. Paltauf's[2] investigations lead him to conclusions similar to those of Katschenko; in embryos of 4.5 cm. (Fig. 22*) Paltauf found the organ at the posterior part of the common carotid at the bifurcation. The pictures Paltauf found during his investigations of the carotid gland of rabbits, cats, calves and human beings were so nearly uniform that, according to his views, the anlage is connective tissue rather than epithelial. In snakes Van Bemmelen (cited by Priceteau[28]) found that the organ develops from the endoderm of the third branchial cleft. Prennant (cited by Priceteau) comes to similar conclusions, while Priceteau[28] himself maintains that the carotid gland develops from the third branchial arch and arises from the structure, which gives origin to the common carotid artery. Borst[29] tells us that the organ is derived from the mesenchyme, while v. Heinleth holds that it arises from a cellular thickening of the posterior and outer periphery of the primitive carotid. Differing, but not widely, from some of the opinions given, are the views of Kohn.[30] whose investigations led him to view the origin of the organ as distinctly nervous, maintaining that it devel-

23. Stieda: "Untersuchungen ueber der Glandula, Thymus, Thyroidea u. Carotica," Leipzig, 1881.

24. Pierre de Meuron: Dissert., Geneva, 1886, p. 107.
25. Born: Arch. f. micro. Anat., vol. xxii, 271.
26. Fischelis: Archiv. f. micro. Anat., 1885, vol. xxv. p. 405.
27. Katschenko: Archiv. f. microskop. Anat., vol. xxx.
28. Priceteau: Jour. de Med. de Bordeaux, 1899.
29. Borst: "Die Lehre von dem Geschwuelste."
30. Kohn: Archiv. f. micro. Anat., 1900, vol. lvi.

* The twenty-four illustrations, including three views in colors, appeared in the first portion of the article published last week, August 18.

oped from the embryonal ganglion cells of the intercarotidal plexus, a view long entertained by Luschka.[31] In embryos of 4 months Marchand found the gland surrounded by loosely woven connective tissue, in which were many blood vessels and nerves.

While many views have been expressed with regard to the development of this organ, the trend of opinion of the recent writers looks more favorably on the researches of Katschenko and Paltauf, and tumors arising from the gland are being classified according to the views of these authors, although the grouping would be more satisfactory if the embryology were definitely known.

### HISTOLOGY.

The controversial views of the architecture of the normal carotid gland entertained by Luschka[31] and J. Arnold[32] are interesting from an historical point of view and illustrate how both the contending parties may be right in a certain measure. In my first paper[3] I took the ground that the gland was not constantly present; in my recent investigations I have been more successful in finding the organ. The size of the gland varies slightly, according to different authors. Mönckeberg[11] gives its length as varying from 5 to 7 mm., its breadth from 2.5 to 4 mm., its thickness 1.5 cm. Reclus and Chevassu[18] say that it is 7 mm. long. At times it is found on the posterior aspect of the common carotid just below the bifurcation, but most frequently on the inner and posterior side of the internal carotid at the origin of the vessel, where it is attached to the artery by means of a thin strand of fibrous tissue containing its blood vessel, which in embryos of 4 cm. Paltauf found arising from the external carotid. In my recent work I found it lying on the external carotid in the bifurcation.

According to Marchand[1] and Schaper[33] there exists a hilus-like structure where the artery enters the gland. The organ has a distinct capsule, which, according to nearly all authors, contains both types of nerve fibers. The capsule sends forth prolongations that enter the underlying structure and divide the organ into lobules, which are again divided by delicate strands of fibrous tissue or capillaries, or both, inclosing the so-called *Zellballen* (Figs. 23 and 24) of the German writers; each lobule receives a branch from the main artery, so that the number of lobules constituting the gland corresponds to the number of branches the main artery possesses. In the lobules the branches form capillaries, producing a structure which, according to Schaper, conforms to the architecture of the gland described by J. Arnold. This writer, who maintained that the essential part of the organ consisted of the glomeruli which are formed of a capillary network, is supported in his contention by Pfoertner,[34] Eberth[35] and Frey.[36] Paltauf, on the other hand, does not hold the organ as a typical glomerulus-like structure, but maintains that in addition to the glomeruli there are large cells lying in close association with the blood vessels and at times lining spaces.

It is very interesting to note that in this controversy between Luschka and Arnold with regard to the structure of the organ, each side had some grounds on which to base its argument, and it is also interesting to note that while most authors now regard the carotid gland as largely a vascular structure and that the cells of the organ are in some way intimately related to the capillaries, recent experiments indicate the correctness of the view expressed by Luschka that the carotid gland is analogous to the coccygeal, the suprarenal glands and to the hypophysis cerebri. Because of the organ's close proximity to the cervical ganglia and because of the presence of many nerve fibers in the gland Luschka regarded it as a nervous structure. Paltauf suggests that later we may recognize a close relationship between the nervous system and the gland.

It must be admitted that the arrangement of the cells of the carotid struck Luschka as being like that of an epithelial gland and that he did not recognize the irregularly arranged and irregularly distributed chromaffine cells, the elements on which the secretory properties of the organ depend. The vessels of the carotid gland, that is, the branches of the main artery, are of considerable size; occasionally they are small and contain but few red blood cells or granular detritus.

Marchand states that the structure of the gland is difficult to determine, but that it is composed of two essential elements, namely, blood vessels and cells. The cells are large, polyhedral, round or oval; the protoplasm is granular and stains faintly. Mönckeberg speaks of protoplasmic prolongations which are occasionally found. The nuclei of the cells are circular or oval and, like the protoplasm, react poorly to the stains. Although the arrangement simulates gland structure, the phenomenon is too inconstant to ascribe to the cells a definite arrangement, but in nearly all instances they are intimately related to the blood vessels; in fact, so intimate is this relation that Marchand is strongly inclined, even in the adult gland, to regard the cells as derivatives of the capillaries. Marchand, and recently Mönckeberg, have pointed out that the capillaries sometimes appear to penetrate the cells, a phenomenon frequently observed in my studies of the normal gland. Paltauf holds that the fibrous reticulum is in no way related to the cells, except to act as a sustaining frame. He notes that the reticulum is not developed to the same extent at all points; occasionally it is so inconspicuous and the nuclei of the cells are so prominent that it is difficult to determine whether these nuclei belong to cells poor in protoplasm or whether they belong to giant cells. Schaper, on the other hand, did not find the reticulum described by Paltauf, whose findings Schaper regards as postmortem changes. According to the last-named author the trabeculæ arising from the capsule divide the organ into secondary nodules, the fibrous tissue around which penetrate them and surround the *Zellballen*, the elements of which, Schaper holds, are not identical with the cells lining the blood vessels, thus controverting Marchand's view. Schaper bases his opinion on the fact that the endothelial cells of the capillaries are never absent. The typical relation of the cells to the capillaries occurs at those points where the cells in a single layer form partially closed spaces, the relatively small lumina of which may contain one, two or even three capillaries.

Among the cells of the lobules and in the stroma are a different type of cellular elements, to which Stilling[37] applied the term "chromophile" and which have recently been described by Kohn, who termed them "chromaffine" cells because of their affinity for the chrome salts. The recent work of Mulon[38] attributes to these cells an important functional significance. Similar or, perhaps, identical cells have been found in the suprarenal glands

31. Luschka: Archiv. f. Anat. u. Physiol., 1862, p. 406.
32. Arnold: Archiv f. path. Anat., 1865, vol. xxxiii, p. 194.
33. Schaper: Archiv. f. micro. Anat., 1892, vol. xl.
34. Pfoertner: Henle's u. Pfeffer's Zeitft., vol. xxxiv.
35. Eberth: Strickler's Gewebelehre, p. 213.
36. Frey: Handb. d. Hist. u. Histochemie, p. 482.
37. Stilling: Revue de Med., 1891.
38. Mulon: Archives Gén. de Méd., 1904, p. 3265.

as early as 1865 by Henle.[39] These cells have been found in the coccygeal gland, the hypophysis cerebri and in the abdominal sympathetic ganglia. Mulon made extracts from the carotid glands of horses and injected this substance into the veins of rabbits, where it invariably produced a rise in the arterial pressure and sometimes produced an acceleration of the beat and force of the heart. Mulon concludes that the chromaffine cells secrete a substance which, when introduced into animals, acts like adrenalin in raising the arterial pressure. The structures containing these cells he terms "chromaffine organs," and holds that they present some connection with the sympathetic system. If these experiments are corroborated the organ will necessarily have to be termed a gland instead of a body.

### TUMORS OF THE CAROTID GLAND.

The tumors, Marchand maintains, arise as a result of the proliferation of the cells of the gland. The growths are either lobular or lobulated; sometimes they are the shape of a small kidney. Lobulation is not infrequent, because of the location of the neoplasms, which during their development grow on either side of both the internal and the external carotid arteries; then, too, the broad septa which penetrate the tumors draw in the capsule at various points and thus produce the lobulated condition. If the tumors remain globular they may push upward as they develop, increasing the angle of the carotids and finally lie on the vessels. This fact was noted by Reclus and Chevassu. Gilford and Davis noted that, while their tumors were adherent to the carotid vessels, they rested on these structures. Marchand says they rest on the carotid arteries as the thyroid rests on the trachea, but the tumors in addition encircle the vessels.

The consistency of all the reported growths is not uniform. Paltauf's first case presented a firm tumor and his second was less firm, but not soft. Kopfstein speaks of a firm growth; the three reported by Gilford and Davis were hard, and the first tumor which Mönckeberg reports was firm; Scudder's and Kretschmann's tumors possessed a similar consistency. The greater number of the reported cases were soft; indeed, some authors speak of a brain-like consistency. Case 22 of the reported series was elastic and soft, and Cases 26 and 27 were softer. The consistency depends largely on the amount of fibrous tissue present and also on the degree of the blood-vessel distension.

The color varies from a reddish-gray to a gray or a brown. Few authors report the gray color seen by Gilford and Davis. Kopfstein and von Heinleth state that the color of the tumor simulates the tinge of a parenchymatous goiter. Reclus maintains that the color ranges from a brownish-violet to a pure violet.

Encapsulation is present in all cases, and although the capsule is most frequently adherent to the surrounding structure it is occasionally free. If the carotid arteries are not embedded in the tumor there are, as a rule, two grooves, either on the anterior or on the lateral surface of the growths. This is due to the fact that as the neoplasms develop there is a tendency to grow posterior to the carotid vessels. The capsule gives rise to many bands that can be identified macroscopically and which penetrate the underlying structure, where they gradually become lost. Occasionally the cut surfaces of the tumors contain large masses of fibrous tissue at some points, usually near the center of the growths.

The blood vessels are a conspicuous feature of the tumors. They are found in the capsule and in all parts of the growths. So abundant are these structures that the cut surfaces of the neoplasms appear sponge-like.

While these tumors often differ in their minute structure, the histology, in a general way, is identical in nearly all the reported cases. The capsule is always described as containing arteries and veins in considerable numbers. Nerve fibers of both the medullated and the nonmedullated types are found by all writers, but I must confess that I have not succeeded in demonstrating these structures in any of the tumors I have had occasion to examine. The fibrous septa mentioned in the gross description as arising from the capsule are more abundant in some tumors than in others; Case 22 was particularly rich in this respect. These penetrating bands, which contain small and large blood vessels, take part in the production of the alveolar architecture, which is a characteristic feature of these growths. Paltauf and Kopfstein speak of the hyalin degeneration these septa suffer. This change was more marked in Case 22 than in Cases 26 and 27. Von Heinleth holds that this change is incident to alterations in the capillaries; the cells lining these structures by overproduction cause occlusion of the lumina of the vessels and thus give rise to hyalin degeneration of the neighboring tissue, as well as the capillaries themselves.

The blood vessels alone, in a large number of cases, form the walls of the alveoli, but occasionally the capillaries are supported by thin fibrous strands, constituents of the fibrous septa. In Case 22 the walls of the alveoli were uniform in thickness and rarely did the capillaries alone form the alveolar walls; in Cases 26 and 27 they were less uniform in thickness and not infrequently, in fact most frequently, they were formed by the capillaries alone or by a single layer of endothelium. Many of the walls were difficult to determine. It is not a rare occurrence to find large vessels from which smaller ones arise and anastomose with other capillaries, forming in that way the walls of the alveoli. The capillaries vary with regard to their structure; occasionally the walls are composed of a single layer, occasionally there appear to be two layers of endothelial cells; in others the endothelial lining is supported by thin fibrous strands.

The size of the alveoli varies. In Case 22 they were fairly uniform, ranging from 0.05 to 0.1 mm. in diameter, while in Case 27, or the tumor reported in this paper, they varied considerably; some possessed a diameter of 0.4 mm. The shape, like the size, varies; in Cases 22 and 26 they were all either circular or oval; in Case 27 the one diameter exceeded the other four and five times, the contained cells forming long strings, like those constantly seen in endotheliomata.

The spaces or alveoli invariably contain tumor cells, which are, as a rule, large and polyhedral in shape, although this varies according to the amount of pressure exerted, and, since the cells possess no limiting membrane, but little force is necessary to influence the shape. Oberndorfer tells us that in his tumor the cells were small but the protoplasm comparatively large. Mönckeberg speaks of the relatively long protoplasmic prolongations as being present among the polyhedral, spindle- and triangular-shaped cells of the alveoli. Paltauf refers to the protoplasmic processes, which, he says, are found among the cells at the peripheries of the *Zellballen* and which protrude into the walls of the capillaries; this phenomenon suggests very strongly to Paltauf that the cells of the spaces are derivatives of the capillaries forming the walls of these structures. Because of the ab-

39. Henle: Zeitft. f. rationalle Med., 1865.

sence of the limiting membrane, the granules of the protoplasm are not closely set and consequently, in a large majority of instances, this substance is transparent. In Case 27 I found vacuolation a few times. In Cases 22 and 26 the cells showed no such condition. Mönckeberg found glycogen in the tumor cells examined in the fresh state, and maintains that the vacuolation found in these structures by other authors is due to glycogenic infiltration. The demonstration of this substance further illustrates the resemblance of the carotid gland to the suprarenal glands. Perhaps further studies instituted by Mulon will bring to light still other similar features in these two organs, so widely separated topographically.

Oberndorfer speaks of a foam-like appearance of the protoplasm of these cells, which he believes to be due to the presence of fat globules or glycogen, but because his specimens were not examined in the fresh state it could not be determined which of the two substances was present. The number of cells in each alveolus varies in different tumors and also in the same growth. In Cases 26 and 27 the spaces were so well filled that it was extremely difficult to identify the boundaries of the alveoli in many parts of the tumor. Marchand in his paper called attention to this feature.

The nuclei of the cells are, as a rule, large; of course, they vary and sometimes they are small in comparison to the size of the protoplasm; some are circular, others are spindle-shaped, but the greatest number are oval; all are vesicular. The nuclei can be studied to a greater advantage owing to the fact that they are so readily outlined. The nuclear membrane is always conspicuous; the amount of chromatin varies in the same growth and in different growths. The chromatin in the nuclei of the tumor cells in Cases 22 and 27 was very much less than in Case 26, in which the staining of these structures was intense compared with the other cases named. In Cases 22 and 27 the centers of the nuclei were very often occupied by a hyalin substance, now and then traversed by a delicate chromatin-containing strand. It is not an uncommon thing to find among the *Zellballen* red-blood cells; in fact, nearly all writers on the subject speak of their presence. Mönckeberg found alveoli where the tumor cells had been almost entirely replaced by the blood. In addition to the blood cells Paltauf found fibrin. Red blood cells were present in greater abundance in Case 27 than in Cases 10, 22 and 26. Marchand notes that in his tumor the cells were placed so loosely in the alveoli that the dislodgement was readily accomplished. Leithoff calls attention to the fact that in the tumor of which he writes the alveoli contained many cells, the protoplasm of which was scanty, but the nuclei were prominent and rich in chromatin. He states that they bear a striking resemblance to sarcoma cells.

Occasionally the tumor elements, instead of being inclosed by the delicate fibrous tissue strands or the capillaries, are disposed around cross-sectioned vessels, there being no definitely formed alveoli. Here occasionally one finds tumor cells placed at right angles to the blood vessels. Leithoff[40] maintains that such an arrangement is a frequent occurrence, while Mönckeberg holds these pictures as coincidents rather than as specific arrangements. Now and then one finds tumor cells, as pointed out by Oberndorfer, arranged around small spaces forming structures like acini. Paltauf referred to these pictures as spaces in the *Zellballen*. Marchand observed certain cells which he maintains resembles syncytium and regards them as probably the result of confluence of several tumor cells. Oberndorfer speaks of similar structures. Mönckeberg and also Gilford and Davis found elements containing nuclei; they look on them as giant cells; similar structures were found in Case 26.

The source of the tumor cells is still an unsettled question. Von Heinleth declares that the tumor elements not only lie on the capillaries, but are derivatives of those structures. Marchand is of the same opinion. There are points in the sections that appear to me to indicate that the cells must be derivatives either from the endothelium or, what is more probable, from the cells around the capillaries, which are perhaps identical with the endothelium. There is, of course, no method by which we can determine definitely that the tumor elements are derivatives from either the lining of the capillaries or the cells around these vessels. In Cases 26 and 27 it was no uncommon thing to find capillaries with a single layer of endothelium forming the alveolar walls, to which were partially attached cells jutting into the alveoli and among the contained cells.

Kaufmann and Ruppanner exclude the carotid tumors reported by Gilford and Davis, but Dr. Keen has included them in the series. The ground on which Kaufmann and Ruppanner make the exclusion seems to me insufficient; the only sound point in their argument which can possibly carry weight is the fact that the tumors were found lying on the carotid arteries instead of behind and between them; in the gross description mention was made of the fact that if the tumors remain globular they may push upward, increasing the angle of the carotids, and finally may lie on these structures. In the second case of the Gilford and Davis report the statement is made that the tumor was also between the vessels. While it is the rule to find the tumor extremely vascular, yet in the same case they say that in some areas the tumor was soft and red in color; the prevailing tinge was gray. It must be admitted that the microscopic description is very superficial, yet they speak of the alveolar arrangement of the cells and of the fine capillaries in the walls of these structures; their description of the tumor elements corresponds to the cells found in carotid tumors; they also found red cells among the tumor elements in the alveoli, a constant feature of these neoplasms. Giant cells which they found have been mentioned by several authors.

By some these tumors have been termed angiosarcomata, but most writers have called them peritheliomata. Leithoff,[40] because of the abundance of the small cells in the alveoli, declared the tumor of which he wrote was a perithelial sarcoma. Paltauf maintains that histologically the perithelial cells do not differ from the endothelial, consequently there is no sound basis on which the term perithelioma is placed, yet he maintains that multiplicity of names, when associated with the proper conception, does not constitute a source of confusion. I am inclined to simplicity and would suggest that the tumors be called endothelioma, notwithstanding the fact that I applied the term perithelioma to the tumor in Case 22.

## DISCUSSION.

DR. JOSEPH D. BRYANT, New York, said that he had never met with a case of this kind and had been able to learn of but one, and this only after consulting with the pathologists of his city. It occurred to Dr. Bryant that the interference of the circulation referable to the brain would be an important matter to consider and, therefore, he consulted the classic essay of Dr. Wyeth, published some years ago, bearing on the surgery of the carotid artery, and found that he had collected 789 cases of lig-

40. Leithoff: Dissert., Wurzburg, 1904.

ature of the common carotid, 95 or 12 per cent. of which caused more or less disturbance of the cerebral circulation. From this 95, he selected 62 cases and arranged them according to age and sex.

Of these 62 cases under 25 years of age there were 21 cases in which cerebral disturbances ensued, following ligature of the common carotid; 7 females and 14 males. Of the 7 females, four recovered and three died. Of the 14 males, three recovered and eleven died. Twenty-eight cases were noted between 25 and 50 years of age, 6 females and 22 males. Of the 6 females, one recovered and five died; of the 22 males, 6 recovered and 16 died. From fifty years and upward there were thirteen cases, eight males and five females. Of the eight males, two recovered and six died. Of the females, all died. These cases are interesting, because they illustrate very forcibly the effect of ligature of the common carotid arteries, but this list can be regarded only as suggestive, since many of the cases were of greater significance in other respects than ligature of the vessels for carotid tumors. The latest general statement regarding deaths in ligature of the common carotid shows that of 834 patients, 327 died; of the total number (834), 789 were ligatured before asepsis, 323 of whom died. Of the remaining 45 ligatured under asepsis, but 4 died, showing at once the great importance of modern methods.

## PARAFFIN PLATES AS AN AID IN OPERATIONS FOR EXTENSIVE SYMBLEPHARON

### AND FOR THE RESTORATION OF CUL-DE-SACS FOR PROTHESIS.*

WILLIAM H. WILDER, M.D.

CHICAGO.

Symblepharon of severe degree, because of extensive destruction of the conjunctiva, has long been a *bête noir* for the ophthalmic surgeon. I do not intend to consider in this paper those simpler cases in which there is a limited destruction of the conjunctiva and slight band-like adhesions between the eyelid and the ball, for these can easily be relieved by the exercise of some ingenuity on the part of the surgeon and the transplantation of flaps of conjunctiva by one of the many methods that have been devised by different operators. I propose, however, to consider those severe cases in which, from injury, burn or ulceration, there has been extensive destruction of the conjunctiva, and a great part or the whole of one or both lids has become firmly adherent to the eyeball.

My subject also includes those more difficult cases of atrophy of the conjunctiva, sometimes almost total, resulting from ulceration, burn, cicatricial growth in the orbit from cellulitis after an imperfect operation of enucleation, in which an artificial eye can not be worn and which are brought to the surgeon for prothesis. Such cases of total symblepharon have been a dread to every ophthalmic surgeon, and, as stated by Arlt years ago, are for him a *noli me tangere*.

Knapp[1] stated:

> In spite of the numerous attempts which, during the last twenty-five years, have been made to remedy this unfortunate condition by grafting skin or mucous membrane of all possible localities and in all possible manners on the atrophic surfaces, I have not seen, either in New York or in my travels, a single case that had been more than a temporary improvement, including even the cases in which the object aimed at was only to fit a stump for the prothesis of an artificial eye. All these grafts, if they take root at all, sooner or later ulcerate and slough or shrink to nothing.
>
> The older methods of securing free space by putting between the wounded surfaces foreign bodies, e. g., plates of metal, have been abandoned.
>
> The grafting of small pieces of skin or mucous membrane on wounded surfaces had practically to be given up when tried on the conjunctiva. The unavoidable movements of the eye almost always prevented them from taking root.

I make this rather extensive quotation from such an eminent authority as Dr. Knapp to show that as late as 1898 the application of grafts for the purpose of making an artificial fornix was unsuccessful, and the same was said of transplantation of skin flaps from the lid or cheek.

The reasons for failure are apparent. Thick-skin grafts, such as Wolff grafts, are more likely to slough than the thinner Thiersch grafts. Again, the latter are not likely to grow unless they are perfectly and evenly applied to the wound surface, and this is accomplished with difficulty in the case of a cul-de-sac or fornix that has to be lined unless we use some means that insures perfect and even coaptation. This is not accomplished by the use of sutures placed through the graft and fornix, for these tend to wrinkle it, but such sutures may have a distinct advantage if used according to the method practiced by Weeks,[2] so that they will pass through the firm tissue of the periosteum in their course to the cheek and so anchor the graft firmly and reduce to a minimum contraction of the new fornix.

The ideal operation for symblepharon will be that which will bring about permanent restoration of the fornix and secure mobility of the eyeball, or, if the eyeball is absent, furnish a cul-de-sac deep enough to allow an artificial eye sufficiently large to be worn. This ideal operation must remove any cicatricial tissue that causes thickening and deformity of the lid, or that would by its contraction cause shrinking of the newly made cul-de-sac.

The new cul-de-sac must be lined with epithelium, and for this purpose one would preferably select conjunctiva if that were available, but this is not easy to obtain, although for operations of limited extent the conjunctiva of a rabbit or a dog may be used.

In this particular we can not attain our ideal and are forced to take epithelial structure from some other part. Mucous membrane from the lip may be used, but here again the amount is limited and it is difficult properly to sterilize it and to remove it in thin layers, such as are required. Furthermore, such grafts are more liable to shrink than those taken from skin surfaces.

The lining graft should be thin and membrane-like, and so if mucous membrane is not available Thiersch grafts of suitable size may be used instead. These, as originally pointed out by Hotz,[3] answer almost every requirement, although, naturally, there are some objections to their use. The membrane must be perfectly fitted to line the pocket and must not wrinkle or fold, but must be perfectly coapted; otherwise it will not attach itself and will slough away. The introduction of some mechanical appliance, such as a plate, that will press the graft evenly and firmly into every part of the new cul-de-sac, and will at the same time immobilize the part, so that healing will take place promptly, a plate that can be easily removed if desired and as easily replaced, that will not irritate by its presence; such a method would approach the ideal.

* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

1. Norris & Oliver: "System of Diseases of the Eye," vol. III, p. 884.

2. Weeks: Trans. Sect. on Ophth., A. M. A., 1902. Trans. Tenth Cong. Ophth., Lucerne, 1904.

3. Hotz: "The Use of Thiersch Skin Grafts as a Substitute for Conjunctiva," Ann. Ophth., April, 1893.

A number of years ago, before the introduction of plates for this purpose, I tried in several cases to hold the graft smoothly in place by pouring melted paraffin into the freshly lined pocket, but the paraffin had to be of such low melting point to avoid injury to the tissues that it was not firm enough to give the needed support. In some simpler cases it seemed to suffice, but it would not meet the requirements in the more difficult ones. I made mention of my experience with this method a number of years ago in a discussion on this subject in this section, but I have since abandoned its use.

Nothing answers so well the purpose of holding the graft in position as some form of plate. In 1898 Morton[4] recommended the use of a prothesis to hold the grafts in place, and a little later May[5] contributed reports of several cases successfully treated by this method. He uses a shell of porcelain or glass, shaped like an artificial eye, on which the Thiersch graft, with its raw surface outward, is placed. This shell is then placed in the newly made cul-de-sac, so that the raw surfaces are brought into contact. Fine sutures unite the edge of the graft with the edge of the wound.

A number of operators have reported satisfactory results in operating for total symblepharon by implanting Thiersch grafts and holding them in place by a glass or porcelain prothesis after the method of Morton and May. Among these are Natanson,[6] Grunert,[7] Gullstrand[8] and Abadie.[9]

Weeks recommends a plate made of "base gutta percha" about 1 mm. thick, such as is used by dentists, which is molded into proper form after dipping it into hot water. The Wolff graft that he uses is secured by loop sutures that pass through the firm periosteum at the orbital margin, and is then held in place by the gutta-percha plate.

Hotz[10] employs a lead plate (Fig. 1) that is shaped to fit the new cul-de-sac. The Thiersch graft is first spread out over the wounded surface and the edges united with fine sutures. After this is accomplished the lead plate is placed in position and stitched to the lid through holes previously drilled through the plate. This holds the graft down into the deepest part of the cul-de-sac.

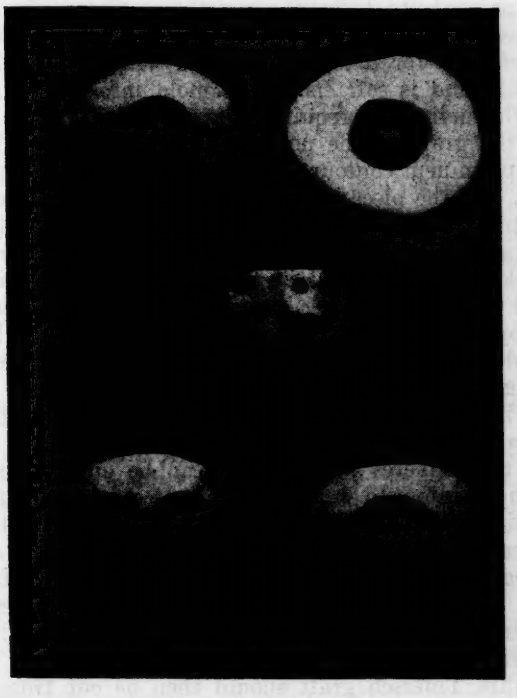
H. W. Woodruff[11] employs much the same method, preferring, however, to make the plate of block tin. He spreads the graft over the edge of the plate, raw side outward, and then inserts it carefully into the new cul-de-sac. He does not attempt to suture the edge of the graft to the conjunctiva (a manifest advantage if it can be dispensed with), but in sewing the plate to the lid he passes the thread through that part of the graft that lies next to the lid. Only one lid is operated on at a time.

I have seen the results of some of Dr. Woodruff's operations and can testify to the value of the method. Indeed, his success prompted me to endeavor to add something to the technic of this difficult work.

The method of operation that I now employ, a modification of the plate or prothesis method, has proved so successful in my hands in a number of difficult cases that I venture to recommend it. Metal plates, preferably of soft sheet lead or block tin that can be easily cut to any size or molded to any shape, are coated with hard paraffin of high enough melting point so that the temperature of the body will not melt it and so expose the metal plate. Such a paraffin plate is perfectly smooth and can do no harm to the cornea.

Through the center of the plate a hole about the size of the cornea has been made, and through this the cornea can be seen and treated if necessary while the plate is in position (Fig. 1).

In operation on cases of obliteration of the conjunctival sac, the eyeball being absent, I use a paraffin plate of a size large enough to fill out both cul-de-sacs, and in the center of this plate have two or three holes, through which the orbit can be easily irrigated while the plate is in position. Furthermore, the band of metal separating these openings furnishes a good handle for the forceps to seize while inserting or removing the plates.



**Figs. 1 and 3.—Lead plates prepared for symblepharon operation, the cornea being present.**
**Fig. 2.—Lead plate used for restoring cul-de-sacs for prothesis. This would be coated with paraffin.**
**Fig. 4.—Similar plate coated with paraffin.**
**Fig. 5.—Lead plate to be sewed to the lid in the method of Hotz and Woodruff.**

### TECHNIC.

The technic of an operation for symblepharon of one or both lids when the eyeball is present and the cornea is intact or partially so would be as follows: In many cases local anesthesia will suffice. In addition to 4 per cent. cocain solution externally, hypodermic or subconjunctival injections of 0.5 per cent. solution are used. In extensive cases or with nervous individuals a general anesthetic would be required.

If the palpebral fissure is shortened, a free canthotomy should first be made, extending to the orbital margin to give a free field for dissection. The lid should then be carefully dissected from the cornea, if it is attached thereto, and this can best be done with a Graefe cataract knife. In the course of the separation of the lid from the eyeball and the preparation of a new cul-de-sac the dissection should be made close to the lid and should

4. Morton: Ophth. Rec., Aug., 1898.
5. May: Arch. Ophth., vol. xxviii, p. 182, 1899; vol. xxx, p. 474. 1901.
6. Natanson: Klin. Monats. f. Augenhk., vol. xlii, p. 116.
7. Grunert: Klin. Monats. f. Augenhk., vol. xliii, p. 298.
8. Gullstrand: Klin. Monats. f. Augenhlk., vol. xliii, p. 312.
9. Abadie: Bull. et Mem. de la Soc. Franc. d' Ophth., vol. xx, 1903, p. 241.
10. Hotz: Klin. Monats. f. Augenhlk., vol. xliii, p. 319, Chicago Med. Rec., 1901; Ann. Ophth., July, 1905.
11. H. W. Woodruff: Ann. Ophth., March, 1903.

proceed until the margin of the orbit is reached, if there is much cicatricial tissue present. Unless the dissection is close to the tarsus the lid is apt to appear too thick; this precaution, therefore, is especially to be observed in restoration of the socket for prothesis.

If the margin of the lid has been destroyed, as by a burn, an attempt should be made to restore it by inverting the part dissected from the eyeball, and by loop sutures passed through it, "hemming" it in a position to secure proper continuity of the lid border. This can sometimes be very accurately done, as in a difficult case of symblepharon I recently had in which two-thirds of the lower lid border changed into scar tissue because of a burn with molten iron, had grown to the eyeball, covering the lower half the cornea.

In preparing such a flap for inversion, care should be taken to make it thin enough by dissecting off the cicatricial tissue with knife or scissors.

When the cul-de-sac has been made of the proper depth and the eyeball is free to move in all directions, the operator proceeds to fashion a prosthetic plate. For this purpose pure sheet lead about 0.5 or 1 mm. in thickness is preferred, for it is easily shaped with scissors, knife and file, and is soft enough to mold into any form to suit the individual requirements. The part that is to hold the graft in the new cul-de-sac may be made of more prominent contour to insure a greater depth at this point. As the piece has been properly sterilized, it can be introduced into the wound to be sure that it will fit. A large circular opening for the cornea is then made with knife or drill and its edges made smooth with a round file. After being cleansed and dried, the plate, held by its edge with light forceps, is dipped quickly in melted paraffin, which has previously been sterilized by boiling.

As has been said before, this paraffin should be hard, with a melting point not lower than 130 F. The thin layer that adheres to the metal can be quickly set by dipping it into cold water, and then it can be repeatedly dipped into the paraffin and into the water until it has an even coating of the proper thickness. The vessel containing the melted paraffin should be in a dish of hot water to prevent congelation; otherwise the layer of paraffin deposited will be too thick and uneven. A very short time is required to prepare such a plate.

A thin Thiersch graft should then be cut from the least hairy part of the arm or leg. It is well to have the graft wide enough so that one piece will answer for each lid and there will not be too much overlapping. The razor that is used for cutting the graft should be in the best possible condition and should be flat on one side, like that used for histologic section cutting. A very little vaselin or soft-soap rubbed on the flat surface of the razor prevents it from sticking to the skin and so insures a more even graft as the surgeon cuts it with short sawing motions. An assistant keeps the razor and graft flooded with warm salt solution.

The graft is transferred to the paraffin plate directly from the razor by setting that edge of the plate which is to rest in the new cul-de-sac against the epithelial side of the graft which is uppermost, and then stroking it into place with forceps or spatula, so that both sides of the plate are covered. The graft is very easily handled, as it adheres beautifully to the paraffin surface, and every wrinkle can be smoothed out or the position can be changed as desired. This adhesion of the graft to the paraffin, preventing the curling of the edges, which is so annoying, and making unnecessary the use of any sutures, is one of the advantages of the method.

The plate now covered with the graft, the raw side outward, is inserted into the new fornix, the hemorrhage, of course, having been checked. The graft naturally comes in contact with every irregularity of the raw surface of the cul-de-sac and should be large enough to lap over on the uncut surface. No sutures or trimming are necessary, for the overlapping edges will either be cast off or can be trimmed off later at the time of one of the dressings, and if care has been taken in fitting and coating the plate and applying the graft smoothly to it all raw surfaces will be covered.

If the symblepharon affects but one lid there will be very little danger of dislodgment of the graft when the operator inserts the paraffin plate, if he first presses it into the new cul-de-sac and then draws the sound lid over it. If both lids are involved it would be better to avoid displacing the graft on one side of the plate by securing it with two or three sutures, which can be passed through the edge of the graft and then through the openings in the plate to the edge of the graft on the other side. This can very easily be done, as the graft adheres so well to the paraffin. It is almost needless to say that during the manipulation of the graft on the plate an assistant should keep it warm and moist with saline solution. In this way both lids can be operated on at the same session.

If a canthotomy has been done, the canthus should be brought together with sutures, and then a moist boric-acid dressing of gauze and cotton should be placed over the closed lids and held in place with an appropriate bandage. Both eyes should be bandaged and the patient kept in bed. The dressing may be changed the next day so that the cornea may be inspected and the eye gently irrigated with a warm boric-acid or saline solution.

If the case is one in which the eyeball is present, the plate is carefully removed at the end of forty-eight hours to make sure that the cornea is uninjured and that the paraffin has not been rubbed off the plate. The graft will be attached by this time, but after gentle irrigation the plate should be reinserted and the eyes dressed as before.

In cases of restoration of the cul-de-sacs for prothesis in which the eyeball is absent, the plate may be left in position for six or seven days, if there is no evidence of infection, and the orbit irrigated through the openings in the plate. At the end of this time it should be removed, recoated with paraffin, if necessary, and reinserted. If the plate used in such a case has been very large, to insure deep cul-de-sacs, it may be necessary to cut it in two to remove it easily, but this can be readily done with scissors along a central line corresponding to the long axis of the palpebral fissure. A smaller plate can be reinserted or the old one can be reapplied by hinging it, that is, making holes at either end of each half and tying them together with strong silk thread. In cases in which there has been extensive contraction of the conjunctiva, such plates must be worn continuously for weeks to prevent shrinking of the new cul-de-sac.

I have operated by this method in eight severe cases of symblepharon, two of which were total, and with uniformly good results. Six of these cases had extensive symblepharon of the lower lid, so that the cornea was partly covered by the adhesion and the eyeball could not be moved. The patients wore the paraffin plate over the cornea with perfect safety and comfort until the graft had firmly healed in place and good mobility was secured. In the cases of total symblepharon there was complete

obliteration of both cul-de-sacs, in one of them the palpebral fissure being reduced to a mere slit. In each case operation was done on both lids at one session and the results obtained were such that an artificial eye could be worn. Furthermore, the length of time that has elapsed since the operation, two and one-half years in one case and nearly two years in the other, without noticeably more shrinking than occurred in the first three months after the treatment, encourages me to believe that the result is permanent.

## CONCLUSIONS.

The advantage of a plate for holding mucous or Thiersch grafts in place in the fornix of the eyelids is obvious. The advantage of the paraffin plate is that it can do no harm to the cornea. It can be built up as required to fit any conjunctival cul-de-sac that has to be lined with a Thiersch graft. The graft adheres to the paraffin, so that it can be evenly smoothed out on it, and thus perfect coaptation is secured between the graft and the raw surface of the cul-de-sac. To accomplish this the graft should be thin and large enough to cover all raw surface, no sutures being required. With perfect coaptation the graft will have secured a firm hold at the end of forty-eight hours and the plate can be removed for cleansing the eye. In the case of restoration of the socket for prothesis, it may be left in place for a considerable time, for the sac can be cleansed by irrigation through the holes in the plate. If it is so large that there is difficulty in removing it, it can be cut in two and the subsequent treatment continued with a plate that can be more easily inserted.

## DISCUSSION.

DR. CHARLES H. MAY, New York, has been so well satisfied with the porcelain supports he has been using, that he has never felt tempted to try any substitutes. He uses porcelain shells of greater or lesser thickness, having the shape of artificial eyes; in fact, they are artificial eyes minus the coloring which is added for cosmetic effect—the blood vessels, iris and pupil. He has a supply of various sizes, including some which are shell-shaped and others which are thicker and hollow, corresponding to the so-called Snellen or reform eyes. Porcelain can be easily sterilized; it is smooth and polished and thus will not damage the cornea (in cases in which the cornea is intact); it is available in different sizes, shapes and thicknesses, and it requires no special preparation.

He thought that the circular opening in the plate, advocated by Dr. Wilder, is an advantage in those cases in which the operation is performed for extensive symblepharon and in which the cornea is healthy, since it admits of inspection of this part of the eye without removal of the graft support. Even in those cases in which there is no cornea to protect, the ability to irrigate and cleanse the orbit through the openings in the paraffin-covered plates seems a very desirable improvement in technic, providing the necessary separation of the lids does not disturb the graft sufficiently to interfere with smoothness in the adhering process. With the porcelain supports, since it is injudicious to remove the shell for six days, the orbit can not be cleansed thoroughly, and only such material as escapes to the edges of the lids and dressing can be removed. It is true the orbit does not present so favorable a seat for infection as does a bony cavity surrounded by venous sinuses and meninges; but the possible danger of such a result ought not to be entirely dismissed, and the patient's temperature should be carefully watched. The openings in the support, advocated by Dr. Wilder, lessen this danger, if a more extended resort to this operation should prove that such a risk really exists.

Concerning the technic of the operation, he is in the habit of making the cavity just a little larger than is desired. The formation of a little recess at the external canthus is very important. A prothesis is inserted which makes the palpebral aperture just a little larger than that of the opposite side; the one selected should fit nicely and easily, and should remain in position without any necessity for external aid. During the time that bleeding is being controlled, the prothesis is removed, placed on a piece of rubber tissue and a pattern cut out one-third larger than is sufficient to envelope the artificial eye; this serves as a guide to the size and shape of the graft. He prefers Thiersch grafts, but is not prepared to say that they should always be used. The Wolff graft is thick and occupies a good deal of space, the defect in the integument is a very considerable one, and there is often some tension and sometimes a little difficulty in the approximation of the edges, and always quite a scar. In one case in which he used a Wolff graft, although he selected a region of the skin devoid of all but the very finest hairs, the latter became thicker, coarser and longer in their new situation, and in the course of a few weeks quite a crop of good-sized hairs presented itself in the newly-formed socket; the thick graft is much more easily handled than the Thiersch grafts.

The graft is next wrapped around the prothesis, with the raw surface externally, in such a manner that the junction of the upper and lower margins will fall in the middle of the anterior or convex surface of the support. If, after insertion, the support stays in nicely so that there is no tendency to fall out, and the socket seems comfortably filled so that the lids can be closed readily, he does not insert any stitches either through the bottom of the cul-de-sac, at the edges of the denuded portion of the socket, nor sutures to hold the lids together. The support if sufficiently large and correct in fit, keeps the graft in close apposition with the raw surfaces. The marginal excesses of the graft slough away. A moist dressing is applied, changed after 48 hours, and daily thereafter; but the support is not disturbed until after 6 days.

He agreed with Dr. Wilder that no sutures are necessary. He has used marginal stitches, and has also employed two sutures through the bottom of the cul-de-sac, coming out just above the supraorbital margin, as recommended by Weeks; but the cases treated without both of these forms of stitches have done just as well as those in which he has used them. The main factor in keeping the graft in place and in having it taken evenly and completely is not the stitches, but sufficient size of the cavity created and ample size and correct shape of the support. In those cases in which there is a globe with clear or damaged cornea and the operation is resorted to for the cure of extensive symblepharon, he is in the habit of sewing the graft or grafts in place by marginal sutures, and then inserting the shell-shaped support. Here also, the success or failure of the operation seems to depend on the establishment of sufficient depth of the fornix and the insertion of a support of adequate size.

DR. CLARK W. HAWLEY, Chicago, has seen the plates used in one or two cases with very satisfactory results. He has never used the Wolff grafts, but has used a large number of Thiersch grafts and has been well satisfied with them. Some operators make them too thick. He has seen two operations for pterygium fail because the grafts were too thick. The grafts can not be made too thin, especially when grafting on the eyeball itself. The suggestion as to infection through the Thiersch grafts he thought was not well taken. He thoroughly cleanses the field from which the graft is taken so that there is very little danger of carrying infection that way. He has never lost even a part of a graft and so has had no thought of such a thing as infection.

DR. JOHN E. WEEKS, New York, pointed out that it is evident that different men with the same purpose in view, and the same material to work on, will obtain different results. In his opinion there are a number of essentials for the success of this operation. One is that the groove must be sufficiently large and deep; in many cases the external canthus must be divided. Another is that the flap must have attachment to the peritoneal

ADDITIONAL REFERENCES.

12. Czermak: "Die Augenärztlichen Operationen," 1893-1904.
13. Axenfeld: Klin. Monats. f. Augenhlk., 1900.
14. Noorden: Berl. klin. Wochft., 1891, No. 4.
15. Maxwell: Ophth. Rev., 1903.
16. Gidney: Indian Med. Gaz., vol. xxxix, 1904.
17. Paton: Lancet, 1904, vol. I, p. 1121.
18. Doyne: Ophthalmoscope, December, 1905.

tissue in order to maintain the depth of the cul-de-sac. Another that the plate must be sufficiently large to carry the graft to the bottom of the groove in case sutures are not employed. Dr. Wilder's plate meets that indication fully. An artificial shield, as made by the men who make artificial eyes, is frequently not large enough and does not carry the graft sufficiently deep. In his opinion a plate which the operator can mold at the time of the operation is preferable, so that a paraffin plate made as Dr. Wilder has made it is a very excellent one. The plate made of gutta percha is also a good one. An advantage in Dr. Wilder's method is that sutures are not necessary. If the Wolff graft is used, sutures are necessary. He has operated on fourteen cases after the method described by him and they have been successful without exception. The earliest case is now seven years old and is all right. A fault with many operations is that tissue fills in from the bottom and the cul-de-sac is obliterated. Another advantage of Dr. Wilder's method is that both lids can be operated on at the same time. That can not safely be done by the method the speaker advocated. One other thing is the prevention of sepsis. The antiseptic precautions should be thorough. If this is well done there is no reason why the operation should not be successful.

DR. S. D. RISLEY, Philadelphia, has resorted to many methods and thinks this will probably be an improvement. Sometimes, however, simpler things work very well. His first attempt was with a celluloid plate, softened by placing it in hot water, and a sheet sufficiently large cut out, with three or four openings through it for drainage. Next he used a thin plate prepared in the same way. He used this to hold the graft in place and also as a shell in very young children where it was not possible for years to wear an artificial eye. On one occasion where he was compelled to resort to something on the spur of the moment, he employed sterilized protective, holding it in place by packing in cotton, and he has never had a case do so well as this one.

One of the important parts of the technic is the treatment the graft receives. These cells are very easily destroyed, especially by efforts to render the graft absolutely sterile. Chemicals that are destructive should be avoided. The physiologic salt solution is the one he always uses. He favors the Thiersch graft and always puts it in place from the razor without putting it into any fluid. Placing one end of the graft in contact with the wound, then pulling the razor away, it spreads itself out as though it belonged there. There is no need to fear its being washed away if the surface on which the graft is placed has been prepared carefully. The readiness with which these cut cells adhere to the denuded surface is remarkable.

DR. C. D. WESCOTT, Chicago, has seen Dr. Wilder operate by this method and vouched for the simplicity of the method as compared with others. He said that the plate can be made of almost any desired thickness by rapidly dipping it into melted paraffin, and manipulating the paraffin with the fingers as it is cooling. The shape of the Snellen can be closely imitated, if desired. The modeling wax of the dentists may be used instead of paraffin. It is a substance of higher melting point than paraffin.

DR. WILLIAM H. WILDER agreed as to the necessity of as perfect antisepsis as can be practiced in this locality, although the tissues here are much more resistant than elsewhere. Grafts will hold in the socket and on the lids that perhaps would not hold elsewhere. The chief advantage urged for this little measure is its adaptability. There is no question about the artificial eye itself furnishing an excellent plate for the graft, but it is essential to have something that can be adapted to the individual case. One of these plates can be made in five minutes and tried to see if it fits the socket. It can be made more prominent at one place than another to suit the individual case. Another advantage is that both lids may be operated on at the same sitting, but the precaution should be taken of making a good wide canthotomy to expose the field to view. Later a canthoplasty can be done.

**Diabetic Insomnia.**—Hutchinson gives twenty grains of strontium bromid and fifteen grains of antipyrin at night.—*Denver Medical Times.*

# THE FETICH OF DISINFECTION.*

C. V. CHAPIN, M.D.

PROVIDENCE, R. I.

Disinfection in this connection refers to that sort which is commonly carried out by health officials after death, or recovery, from contagious diseases. The paper has no reference to that continuous attention to cleanliness—"medical antisepsis" the French call it—which is desirable in the management of contagious cases. This terminal disinfection, if one may so call it, occupies a high place in public sanitation. A reader of works on hygiene would conclude that disinfection is held in equal esteem with isolation, or is perhaps of even more importance, for it is sometimes expected to work wonders in the prevention of disease where there has been no isolation, as, for instance, the official disinfection after a case of tuberculosis when for years there may have been no attempt on the part of the patient to prevent the infection of others.

## OFFICIAL DISINFECTION.

Official disinfection costs money and is annoying. Its only excuse is that it is believed to be an important factor in preventing disease. But is it an important factor, and is its practice based on good evidence of its necessity and value? It is to be feared that it is not. We do not disinfect because the utility of the process has been demonstrated, but because of precedent and authority. There can be little doubt that disinfection had its origin at a time when disease was believed to be the work of demons. Burnt sacrifices and fumigations with aromatics were among the means employed to appease the supernatural powers. The early practice of medicine was confined to the priesthood, and the final cleansing of the sick was largely a religious ceremony. This cult of purification by fire and smoke and libations has continued even to modern times. The attempt to give it a scientific basis is an afterthought.

## REASONS FOR DISINFECTION.

Several arguments are advanced by the advocates of disinfection in support of the practice. Disinfection is necessary, it is claimed, because the virus of the disease becomes attached to material things such as clothing, books, toys, furniture and the walls and woodwork of rooms. On these things, it is said, it retains its life for weeks and months, and these infected things are, therefore, a very important factor in the extension of the contagious diseases.

That this is so is believed because numerous cases are on record in which infected things are assumed to have caused sickness. Reports are often made of diphtheria due to exposure in a room which had not been disinfected or due to contact with infected books or playthings. The virus of scarlet fever is supposed to be particularly tenacious of life, and we hear of cases due to the bringing out of infected clothing or furs which had been put away months or even years before. While accounts of such cases are often enough found in medical literature, they are, even if true, far from proving that such infected things are a really important factor in maintaining our common contagious diseases. Now, just here, I wish to make myself perfectly clear. I would not, in the present state of our knowledge, for a moment deny that clothing, books and even a room itself

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

may be infected and may remain so for a considerable time, and then give rise to a fresh outbreak of disease. What I do claim is that reports of such modes of infection are rarely well authenticated, and even if it is admitted that such infection occasionally takes place there is no evidence that this is a factor of any moment in the extension of the contagious diseases, while there is a great deal of evidence that it is a factor of no consequence at all.

### TRANSFERENCE OF DISEASE.

To return to the value of the evidence of the specific instances narrated of the transference of disease by infected clothing, bedding, toys, books, letters, etc., it is well to recall in this connection how firmly was established the theory that yellow fever was often transmitted by fomites. Any one who questioned this was laughed to scorn. The proof of it was felt to be conclusive by almost everybody. To sleep in a bed lately occupied by a yellow-fever patient would have been thought to be suicidal. Now we know that this has been done with impunity, and that clothing, bedding and letters are never carriers of the yellow-fever virus. Perhaps it would be well, then, to question whether or not an infected room really does cause diphtheria in its occupants, or a woolen coat transmit scarlet fever, or toys act as the bearers of measles. In most of the cases of alleged infection by fomites the fact is not proven at all; at best it is a possibility merely, not even a probability, and certainly far from a demonstration. The majority of cases of contagious disease can not be traced to their origin. Because a certain case develops soon after exposure to a supposed infected article is no proof that it was due to such exposure. As will be shown later, direct exposure to infected persons is the probable source of the infection in most cases of contagious disease. Unless this source of the infection can be fairly well excluded, it is merely an assumption to attribute the infection to things. A more critical examination of these cases would eliminate most of their value as evidence. After all, instances of apparent infection by fomites are rare. In my own experience of 22 years as health officer I have met with few of them, even in the earlier years of my practice, when I must confess I looked for them more carefully than I do now, since I have become satisfied of their unimportance. Doubtless all health officers will agree with me as to the rarity of cases in which it appears probable that fomites are the source of infection. Certainly no one could develop by induction, from their frequency, the theory that the contagious diseases extend chiefly in this way. It will not be claimed that the health officer practices disinfection because compelled to it by the frequency with which cases of fomites infection are brought to his notice. It is done for other reasons.

Probably one reason why so much importance is attached to thing infection is the large amount of discussion which is given to the question of the vitality of bacteria outside the body. Everybody has heard that anthrax and tetanus spores live for years, and, though it is generally recognized that most of the common disease germs do not belong to the spore-forming class, this great vitality of these exceptional types has had its psychologic effect. Bacteriologists have been very apt to report instances of maximum vitality of the organisms of pneumonia, diphtheria, plague and the like, but it is generally forgotten that these are the exceptions, and the impression remains that most of the bacteria given off from the sick retain their vitality and virulence for a long time, which is certainly not the fact.

But undoubtedly there is another and chief reason why the belief has become so well established that the virus of disease remains long attached to things, that these fomites are a most important source of infection; and that the contagious diseases can only be successfully combated by terminal disinfection. As was before stated, it has rarely been possible to trace more than a small proportion of cases of contagious disease to direct contact with others. Even in country places cases are constantly appearing without any visible connection with a previous case. In cities it is still more difficult to trace direct exposure to the sick, and so far as can be determined by routine examination the majority of cases of scarlet fever and diphtheria appear to arise spontaneously, or sporadically, as it was formerly called. Even in smallpox, which owing to its marked eruption and comparative rarity is easier to trace than almost any other disease, a large portion of cases appear to have no connection with previous cases. To explain the origin of these cases has been the chief problem of sanitary science. At one time it was believed by many that the virus of most of the contagious diseases could develop outside of the body. Hence the filth theory of disease, which, although now entirely discredited, still has great influence, even among sanitary officials.

### THE SPECIFIC VIRUS THEORY.

The hypothesis which next appealed to workers in this field was that the specific virus, though incapable of growing outside of the body, could yet retain its vitality for a considerable time, and, attached to various articles, be carried unnoticed to great distances. It must be admitted that this is a very natural and reasonable hypothesis and is supported by many of the findings of bacteriology, and by certain clinical observations. A dozen years ago it was really the only working theory that we had. Of course, if its probability is admitted, disinfection must necessarily follow. This, I take it, is the true reason why for so many centuries disinfection has played such an important part in preventive medicine. It was the only means for controlling that mode of infection, which appeared to be the principal factor in the maintenance of the contagious diseases.

### ORIGIN OF DISINFECTION.

Disinfection had its origin in superstition, and its practice so partakes of the character of magic art that it catches the popular fancy. Even if the health officer does not disinfect, the infected family is quite likely to sprinkle a little sulphur on the stove, or place a saucer of chlorid of lime behind the door. Thus unconsciously do we follow the customs of our remote ancestors who exorcised the demon of disease with incense and incantation. Here we have another explanation of the vogue of disinfection.

### SCIENTIFIC ARGUMENT IN FAVOR OF DISINFECTION.

Let us now examine into the principal scientific argument in favor of disinfection, i. e., that infection is spread chiefly by things. As was before stated, this theory was the outcome of the attempt to explain the origin of that vast number of cases of contagious disease which could not otherwise be accounted for. But within the last dozen years a multitude of facts have come to light which renders this theory unnecessary. It has always been recognized that mild and atypical cases of contagious disease are occasionally seen. Scarlet fever without eruption, mild sore throat diphtheritic in nature, and walking cases of typhoid were mentioned by the older writers; but they were not believed to be

common, and little account is taken of them in the text-books. To-day the majority of physicians are skeptical about the diagnosis when they see an almost afebrile scarlet fever with slight, fleeting rash, or diphtheria without exudation and the patient not confined to the bed; yet those who have studied these diseases most closely know that the mild, atypical cases are extremely common. Even in smallpox, a disease with more characteristic symptoms than any other, mild, unrecognized cases are very numerous. If one examines the reports of health officers of the past few years, it will be found that the frequency of these mild cases is dwelt on, and to them is attributed the origin and maintenance of most of the local outbreaks. The report on typhoid fever during the Spanish war indicated that mild, unrecognized cases were twice as numerous as the recognized cases. In investigating this disease in a small rural community Koch found scores of cases which the attending physicians failed to recognize, or to which no physician was called. Instance after instance is recorded in which a mild sore throat has been the starting point of an outbreak of diphtheria. In Hartford, of 2,038 apparently benign sore throats found in children at school, 29 per cent. were shown to be true diphtheria. The English, who often isolate as high as 90 per cent. of their recognized scarlet fever cases in hospitals, and nevertheless continue to have as much of this disease as we do, attribute their failure to control the disease to the existence of so many mild, unrecognized cases. In fine, we now know that there is a vast number of atypical, unrecognized cases of contagious disease, sometimes exceeding in number the known cases.

### CARRIER CASES.

We have learned that there is still another factor to be reckoned with. It is now well known that the pathogenic bacteria often grow in human beings without producing any symptoms of the disease. After recovery, the specific bacteria may continue to develop for weeks, months, and even years. Not only that, but they are found also in persons who have never been sick at all. These are what the English call "carrier" cases and present no symptoms. They are even more numerous than the mild cases of illness. Such carriers have been found for diphtheria, influenza, cerebrospinal meningitis, typhoid, cholera, the plague, and many other diseases, and the wide distribution of the pneumococcus is known to everybody. In the protozoan diseases, as malaria, trypanosome diseases and Texas cattle-fever, individuals often carry the infection in the blood and show no symptoms. These facts receive scant recognition in most text-books, even those on bacteriology, and are entirely ignored by nearly all writers and lecturers on clinical medicine and sanitation, yet they are of the utmost significance. In these mild cases and living "carriers" we have the real source of contagious disease.

### BACTERIOLOGY.

What does bacteriology tell us about this matter? The direct evidence as to the infection of things is scanty. It must be admitted that there has been very little investigation of this question, although it lies at the basis of sanitary theory and practice. Examinations made in Providence, and by Hill, in Boston, show that diphtheria bacilli are rarely found, even on objects most likely to be infected by the patient. Tubercle bacilli are more tenacious of life than most common bacteria, yet search made for them on floor and walls, where they are most likely to be expected, usually fails to reveal them. It is not easy to find pathogenic bacteria outside of the body. While it is true that bacteria, especially certain resistant kinds, like the tubercle and typhoid bacilli, may occasionally live for some months when removed from the body, it is nevertheless true that all non-spore-forming pathogenic bacteria tend to die off, and that quite rapidly, when so removed.

This whole question may be summed up very concisely. Which is the more likely to be the chief factor in the extension of contagious disease: inanimate objects hypothetically infected with dying bacteria, or living and moving human beings who are continuously throwing off living bacteria? It must be admitted that fomites may spread disease; but, if we reflect how unlikely infected things are to be brought in contact with people and how great the chance of human beings coming in contact with each other, it seems very unlikely that fomites can have appreciable effect in the spread of disease.

### FUTILITY OF DISINFECTION.

If then, as all evidence tends to show, contagious diseases usually extend by means of pretty direct contact between the infected and non-infected, and transmission by fomites has little influence on such extension, it follows that even the most thorough disinfection will have little effect in checking these diseases. There is certainly no rational basis for making it such an important feature in public health work, and holding it of equal value with isolation.

Another thing to be borne in mind in connection with this subject is that a good deal of disinfection does not disinfect.

Until eight or nine years ago sulphurous anhydrid was the chief disinfectant, and this is now considered to be entirely unreliable. Then formaldehyd came into use and at first most of the disinfection with it did not accomplish more than the sulphur. Even now a great deal of formaldehyd disinfection is inefficient, and at the best only exposed surfaces can be disinfected. As the larger part of the clinical evidence of the value of disinfection dates from a time when the process was very imperfect, the value of that evidence is much impaired.

In Providence we have been making a practical test of the value of disinfection by omitting it entirely in some cases. It seems useless to disinfect an apartment unless we can be fairly sure that its occupants are not propagating the germs of disease. In diphtheria we can have no reasonable assurance of this without getting at least two negative cultures from the nose and throat of every member of the family. To require such cultures is impracticable. Disinfection, however, is refused after diphtheria, unless the above-named reasonable conditions are met, which very rarely happens, or unless it is especially requested after a death. During the last year the warning card has been removed 258 times without disinfection, and there has been a recurrence in the family within two months in four cases, or 1.55 per cent. In 87 instances in which disinfection was practiced during that period or a few months preceding it, there was a recurrence in 2.3 per cent. of the cases. The total number of cases of diphtheria fell, however, from 780 in 1904 to 562 in 1905.

It may be asked: What objection can there be to disinfection even if it is not so important as has been thought? Aside from the question of expense, which is by no means unimportant, there is a decided objection. The confidence which the public has in the efficacy of disinfection is the greatest hindrance to the development

of better methods of handling disease and guarding against infection. To practice strict personal cleanliness, not only in the presence of contagious disease but at all times, is the sole mode now known in which the unrecognized cases and the "carrier" cases can be guarded against. The public, and even the medical profession, refuse to believe in infection in well persons, but cling to the old notion that it is things, not persons, that are to be feared. And they will cling to this view so long as health officials lay so much stress on their official disinfection. Many a time a family has lived for months with a consumptive who has taken no precautions about his sputum, and after his death has promptly asked to have the house fumigated. The expiatory sacrifice of disinfection is believed to atone for every sanitary sin. It is our duty to teach that hygienic salvation can only be attained through the good works of personal cleanliness. As the surgeons have given up antisepsis for asepsis, so the health officer must substitute cleanliness for disinfection.

## SUMMARY.

As a brief summary of the argument and the conclusions to which it leads, it may be said:

1. The pathogenic bacteria tend to die rapidly after discharge from the body.

2. There is very little bacteriologic evidence that things remain long infected, and, therefore, contact between the non-infected persons and the infected things must be very direct and very close in point of time if the things are to transmit the infection.

3. Clinical evidence of the necessity for disinfection is wanting.

4. The true explanation of the spread of contagion is the great number of unrecognized, atypical and "carrier" cases.

5. Infected persons, not infected things, are to be feared.

6. Disinfection, that is, official disinfection as a final precautionary measure, has little value in preventing the spread of the common contagious diseases.

7. This sort of disinfection is a powerful factor in preventing sanitary progress, by encouraging belief in discredited theories.

8. While it is by no means advisable to abandon disinfection entirely, it should not be made so important a part of public health work, and should not be insisted on unless it is practically certain that no member of the household remains infected, and should be refused when it is probable that any member of the household is so infected.

## DISCUSSION.

DR. CLARENCE L. WHEATON, Chicago, declared that if we accept the theories advocated by Dr. Chapin, the germ theory must be overthrown. Dr. Wheaton said that it has been demonstrated by bacteriologic examination that the dust on the walls of rooms occupied by tuberculosis patients contains, at times, bacilli; and that it has been possible to make cultures of these germs, proving it absolutely. The same, he believes, is true in cases of diphtheria. Now it would be almost malpractice, he declared, to leave these homes without proper disinfection.

DR. W. F. MORRISON, Spokane, Wash., declared that if Dr. Chapin's ideas of sanitation and disinfection are adopted, we will very soon be followers of Mother Eddy. As a health officer of four or five years' experience, Dr. Morrison said that he has had quite a good deal to do with contagious diseases. He has seen the spread of contagious disease more frequently when disinfection has not been performed than when disinfection after the good old-fashioned method of first cleaning the body, then cleaning the clothes and then disinfecting the house goes hand in hand; and if the clothes are left unwashed, uncleaned and undisinfected, and only the individual is cleaned, the individual may be clean, but the house from which the individual comes (if there is any sense in the germ theory of disease) is still full of living germs; and if one goes into that house and stays long enough and is not immunized he will get the infection. Not everybody gets any infection; thousands of people escape who are immune; thousands of people are immune to everything. Every day of our lives we see the most filthy people escape all forms of disease. Among the indigent in obstetric work physicians see the most abject filth, and yet comparatively little contagion arises from it; and women get up in three or four days and go to work apparently well. In Dr. Morrison's opinion we must not only disinfect the patient with soap and water, but must also disinfect the house from which the patient comes by some approved disinfecting agent. The things must be combined. Dr. Morrison asked if a surgeon who washes his hands with water and makes them as clean as he can, not using approved disinfecting agents, in preparing for a surgical operation would be clean or fit to operate on a patient. If so, the germ theory of disease, he said, is of no value whatever. Providence, he said, has been exceedingly kind to the people of Rhode Island, but Dr. Morrison does not believe the rest of the world can safely follow their example at the present time with the present knowledge.

DR. S. A. KNOPF, New York, declared that there is a happy medium, that we need not go to excess, but we should clean the patient and clean the room. In regard to tuberculosis, he said that he could not accept the idea that the patient is more of a danger to his fellow men in the first stages of the disease. Dr. Knopf thinks that the patient who is up and about, expectorating everywhere, is more of a danger than the one confined to his room, who is only a danger to the few people who are in that room. Dr. Knopf declared that he knows of a number of cases in which the walls have been infected through careless expectoration and in which people who have moved into these rooms without having them previously disinfected have contracted the disease. In his investigations of prisons Dr. Knopf has found prisoners who have contracted tuberculosis in cells where other prisoners who had suffered from this disease had remained for a number of years. Simple whitewashing was not enough to do away with the infection. Examination of the dust from the walls showed the presence of the tubercle bacilli. Dr. Knopf said that he is not a specialist in typhoid fever, but he would not wish to have the linen of a typhoid patient put with other linen without previously disinfecting it. Certainly he would never use the handkerchief of a tuberculosis patient, even though the patient had never expectorated in it, but simply wiped his nose and mouth with it. In tuberculosis, Dr. Knopf said, we must not forget the rôle of flies in the transmission of the disease. The ordinary house-fly will take up tuberculosis matter and deposit its excrement on the walls, and it has been demonstrated, Dr. Knopf said, that the excrementitious matter from flies which had been in a room with tuberculosis patients when injected into animals led to tuberculosis. Therefore, he said, physicians should not teach that disinfection after death is not just as important as prevention while the tuberculosis patient is alive.

DR. H. D. HOLTON, Brattleboro, Vt., said that in the exposure of a hundred people to any contagious disease perhaps not more than forty would come down with it. Why? We do not know. We say their systems were not susceptible at that time. It is very difficult to trace the source of contagion. We do not know, a great many times, where scarlet fever comes from. Dr. Holton sometimes finds out months afterward from some slight circumstances, but he has seen repeated evidences of its contagiousness. He carried it home, he believes, to his own little girl many years ago. He was visiting a man, and a little girl was playing with some toy acrobatic men; she was dovetailing them together and Dr. Holton assisted her and handled them while talking to the man. He went home and his little girl urged him not to go into the office, as his supper was ready, so he picked her up and carried her into the dining-room. In five days she was down with scarlet fever. On investigation it was learned that these toy acrobatic men had been used by the other child to amuse her while recovering from

scarlet fever. Dr. Holton has always believed that taking these toys and gathering from them the loose collections in the dovetails, which, under the microscope, proved to be epithelial scales, was the source of his daughter's scarlet fever. Contagion occurs in different ways. Dr. Holton believes that it comes from walking cases of diphtheria, scarlet fever and measles. He has seen these patients without any eruption at all, and yet they communicated the disease. We see typhoid-fever patients walking around; there is no question about this. The first case of typhoid fever that occurred at Chickamauga Park came from a soldier from Vermont, who enlisted from a town where there was polluted water and typhoid the year round. Dr. Holton believes that the soldier carried that germ in his body; by exposure and changed methods of living he developed typhoid fever. Not every person who, having tuberculosis, is not careful about sputum communicates tuberculosis. We know that it may be communicated in just that way and that not to exercise care and caution would be criminal. We used to see a wife whose husband had died with tuberculosis and who had nursed him through his illness develop the dread disease. Shall we say that it is not demonstrated that the disease was communicated to this devoted wife by bacilli from the sick husband? If so, Dr. Holton said, we must give up all the theories that we have held. It is possible, he said, that Dr. Chapin did not really mean to give us all the ideas that we absorbed. He is very forcible in expression and his hearers may have taken a little more than he intended.

DR. J. N. HURTY, Indianapolis, said that he still believes in disinfection. He can not throw it aside. It seems to him that beyond doubt some diseases are carried by fomites. He holds to the belief that scarlet fever may be so carried, and he believes that typhoid fever may be carried by infected clothing. It should be disinfected. Disinfection carries with it a psychic effect which is worth much. He declared that disinfection may be relied on with too much confidence. An individual or a head of a family might say, "My house has been disinfected and I need not be clean." Again, disinfection might bring calmness of mind and satisfaction with conditions, which is not without worth. Dr. Hurty would prefer to have clothing disinfected, even in yellow fever, not to stop the disease, but to satisfy the desire of the mind for perfect cleanliness. Although he knows perfectly well the method of transmission of that disease, still he said that he would prefer to have yellow-fever clothing disinfected. In reference to Dr. Chapin's remark about the tendency of pathogenic organisms to die, Dr. Hurty said that he was taught that the unicellular organisms are immortal. They do not die; they are destroyed in untold millions by various agencies, such as light, air and disinfectants, but their duration of life is not limited by the needs of the species, as in the case of multicellular organisms. He said that this paper will make us think on this subject, and by thinking and by study we will finally arrive at a correct solution of the problem of disinfection. He said that he will now study this subject with new zeal and with greater earnestness.

DR. A. D. LAKE, Gowanda, N. Y., said that the departure of Dr. Chapin from our accepted belief has been so decidedly radical that it seems to him that Dr. Chapin must more thoroughly substantiate his position before he can ask others to agree with him. To take his view of the matter is to revolutionize all of our long and well-established ideas of the value of disinfection. That disinfection is most potent in its power to destroy disease germs was, perhaps, first illustrated in the history of the plague in London. This terrible disease hung like a pall over the city for many months and thousands died therefrom. In the midst of its devastation occurred the great fire, which swept away one-fourth of the buildings of the city, and through this thorough disinfection the further extension of the epidemic was prevented. It was probably the only means, in those days, whereby the awful mortality could have been controlled. As an illustration of the danger of infection from contaminated clothing, Dr. Lake mentioned the following incident: About three years ago a case of scarlet fever occurred at the Thomas Indian School, where about 150 children are maintained by the State of New York. The first patient, a girl, had been taken from another institution, about thirty miles away, where she had been retained for a short time only. It was learned that just previous to her stay there some cases of scarlet fever had existed at the same institution. The disease developed three weeks after her arrival at the Thomas School. It was found that about a week before the attack began some clothing was sent her from the other institution, and a dress which had been worn by a girl who had died of scarlet fever was included in the bundle. This dress was given to her and she wore it at the time she was taken sick. It is well to state that this dress had been hung in a closet and forgotten when the other garments were disinfected. This one case, it seems to Dr. Lake, settles the question of the importance of disinfection and the danger of conveyance of disease through infected clothing.

DR. D. M. TOTMAN, Syracuse, N. Y., declared his belief that Dr. Chapin is dealing a great deal in theory. Dr. Totman said that he was attending a child who had a very bad throat. He diagnosed the case as a possible case of diphtheria. This was before the certain methods of diagnosis of the present day. He took great care for a few days and kept entirely away from his children, as he always does in such contagious diseases as diphtheria or scarlet fever. Suddenly the child apparently recovered without any other trouble. He saw the child and it appeared perfectly well in the afternoon, about 5 o'clock, and he believed that he had been mistaken about the case and that it was not diphtheria. He put on his overcoat, buttoned it up and went home. He went directly to the room where his little girl was, took her in his lap, opened his coat, held her and kissed her. In five or six days she came down with a typical case of scarlet fever. It was a seven-days' wonder to Dr. Totman how she could have contracted it. In the proper time (five or six days) his other little girl came down with the same disease. She was very ill. He looked for a rash. His daughter had a little rash on the back of her neck only. He visited the first child and found the desquamation of a typical scarlet-fever case of three weeks' standing. Dr. Totman said that nothing can ever convince him that he did not carry that scarlet fever in his clothing.

DR. WALLACE CLARKE, Utica, N. Y., asked Dr. Chapin to define cleanliness. He asked if it is the strong, stalwart scrubwoman, with her pots and pails and liquid disinfectants and soap and water, or is it the introduction into the room of something that will reach every particle of the room as no liquid disinfectant will. He said that this question came up three years ago before the sanitary convention of the State of New York, when the health officer of Rochester introduced exactly the same idea. With regard to cases, he said that he had just been through an epidemic of scarlet fever, lasting two and a half years; it is not over yet. There have been over a thousand cases. In one institution where the officials struggled against scarlet fever very strongly they finally conquered it. Then the building in six or seven weeks was thrown open to visitors again to come and see their children. In the meantime the epidemic was prevailing in the city. Within a short time there was a repetition of scarlet fever in that institution. Visitors were again shut out and again it was got under control and the building thoroughly disinfected, as it was after the first attack. No one was allowed to visit the building, and the inmates were in no way allowed to go out or to communicate with people where they might catch the disease; still, in about two months the disease reappeared. Here was another faulty disinfection, apparently, or a useless disinfection. The cause was looked for and it was found that clothes which had been used in a scarlet-fever ward had been put in a hamper and put in a closet in the laundry. That closet was not reached in any way by disinfection. Missing those clothes, the laundry woman remembered they were in there and sent one of the boys to the room to take the clothes to the laundry. That boy developed scarlet fever seven days afterward. Dr. Clarke would ask Dr. Chapin as to the time limit when he would admit outsiders into a room where there had been, say, scarlet fever.

On the subject of disinfection Dr. Clarke said that formaldehyd is his favorite agent, but he finds that a large body of men do not know how to use it properly. They disinfect the houses and neglect the kitchens, and they forget to disinfect pet animals in the house, and then they claim that disinfection is complete. When a house has been disinfected Dr. Clarke disinfects every one in the kitchen; finally the last person disinfects the

kitchen, some outsider disinfects the last-named disinfector and the disinfection is complete—and that in the presence of a great deal of moisture. One may have a disease in a house—scarlet fever or diphtheria—and not disinfect, and have no repetition of the disease. But Dr. Clarke declared that 91 per cent. of individuals are immune to measles and 33 per cent. to scarlet fever. All physicians know that the mere non-disinfecting of the house shows that immune people as a rule have invaded that house afterward or they would have acquired the disease.

DR. CHARLES S. WILLIAMSON, Chicago, in regard to the question of disinfection, advised looking at the disease in the same light as tuberculosis, and referred to the experiments of Cornet. In these experiments he said that we know that the infection comes from only one source: the expectoration of some infected individual. Now if a patient has been living in a room and has been coughing, even if he has not been deliberately expectorating, little droplets of sputum may be deposited over the entire room, even to the ceiling. If then, Dr. Williamson said, disinfection is unnecessary, we must admit that this whole area is unaffected and incapable of transmitting the infection; yet many experiments have demonstrated that Pullman cars, cabs, etc., are infected in a large number of cases. Dr. Williamson called attention to the fact that all physicians are coming to recognize the importance of house epidemics of tuberculosis and said that these can occur in only one way. He mentioned some of the conditions in Chicago: Some tramp gets tuberculosis; he goes to a lodging house and expectorates over everything. When investigating instances of tuberculosis it is found that certain houses produce overwhelming numbers of cases. They are not borne in and wafted from the windows; they did not come down from heaven; they are infected by that particular area indirectly from that particular patient. Dr. Williamson said that this is not a matter for academic discussion; it is the most important thing that physicians have to face. He said that for the safety of the people it is necessary to disinfect these houses. When disinfection is improperly done he said that it is usually the fault of the politician who does it. He declared that negative results can be explained by the fact that a great many health officers go through the thing perfunctorily. The disinfection is not carried out in the spirit nor even in the letter. Dr. Williamson said that he tells his patients that he will attend to the disinfection and that they are not to turn it over to the health officer. Under these conditions the danger of contagion, he believes, is brought down to a minimum. He said that seven years ago he had the opportunity of assisting in a large number of bacteriologic experiments on dust collected from different pavilions in the same hospitals. It was found that in the surgical division, where a large number of infected cases had been harbored, but where good asepsis and disinfection had been carried out, the infective quality of the dust was very slight. In other words, injection into guinea-pigs, rabbits and white mice in a considerable number of cases did not produce infection; but in the medical ward (and in this particular hospital it was done to emphasize to the medical people the necessity of disinfection) a perfectly overwhelming amount of infectiousness was found in the dust; it was found also that almost every animal inoculated died from streptococcus infection, pneumococcus or miliary tuberculosis. No amount of sophistry can gainsay results of this kind, because they are definite and clean-cut. Somebody will say no patients there took any disease. It is not known that in this particular medical ward some poor fellow who was convalescent did not go out and die of tuberculosis that he had acquired there from the dust. It is known that the dust was there and that it was capable of infecting animals with tuberculosis, and, therefore, probably capable of infecting man. All the negative evidence does not prove anything at all; it is the positive result which counts

DR. G. F. PATTON, New Orleans, said that it has been his fortune to be in the forefront of the battle in all the yellow-fever campaigns in the section where he lives. He began that service under the régime of the Louisiana State Board of Health in office in 1877. The disinfection of that day, he said, might well be styled fetich worship. It consisted in walking backward and forward with a garden sprinkling pot and scattering carbolic acid solutions on the suspected fomites. The system of maritime quarantine then in force actually invited an invasion of yellow fever by disregarding the incubation period of the disease and trusting blindly to disinfection with carbolic acid, after which hundreds of passengers not more than three days from Havana were admitted to New Orleans up to the beginning of June without any detention for observation. Dr. Patton said that while we all agree in condemning idolatry, there is no one who will seriously propose that the human race shall throw aside all forms of religion because some of those forms savor of fetich worship. The majority of physicians are convinced of the utility of disinfection in dealing with certain infectious diseases. Let us, therefore, he said, accept the logic of the situation as being simply this: that everything connected with disinfection that consists of useless formality be thrown to the winds, but that we can not afford to forget or to ignore the fatal lessons of the past as regards the conveyance of such diseases as erysipelas, diphtheria and scarlet fever by fomites. The evidences of such transmission are too overwhelming and we can not get around them by argument. Dr. Patton said that there is common ground on which others can meet Dr. Chapin. Though all physicians can not accept the doctrine which he advocates *in toto*, still they will agree that the fetich of disinfection which has held the medical profession in bondage for so many years, and has led to untold disasters, is now a thing of the past, and that henceforth our efforts will be to apply disinfection strictly in accordance with the revelations of modern science. We have got rid of senseless disinfection in dealing with yellow fever. That fetich is overthrown, Dr. Patton said, and he is a convert to the doctrine that the disease can be conveyed only by the stegomyia mosquito. We still have with us all the time such diseases as scarlet fever, diphtheria and erysipelas, and we can not get around the fact that they seem to be carried by fomites. Therefore he considers it our duty to act on that belief until very much stronger argument to the contrary is brought forward than has yet been presented.

DR. SENECA EGBERT, Philadelphia, said that in spite of the fact that he does not believe that Dr. Chapin has convinced any one that disinfection is not wise nor necessary, he feels that the doctor has some of the logic of the question on his side. Prophylaxis includes all the methods that may be used to prevent disease, and we can divide the work of prophylaxis into two parts: disinfection, which gets rid of the exciting causes of disease, and that greater function, sanitation, which has to do with the removal of the predisposing conditions. Dr. Egbert declared that Dr. Chapin has in his favor the fact that physicians are doing a great deal of harm in giving the public the idea that disinfection is the thing of most importance in our efforts to eliminate infectious diseases. Physicians still have a great deal to do in teaching people that they can increase their own personal vital resistance by the many ways of sanitation, and that they can thus very greatly lessen the incidence of infection and the consequent number of cases of disease. Dr. Egbert does not agree with Dr. Chapin that it is wise to do away with sanitary disinfection. He believes that every infected place should be thoroughly disinfected; and that word "thoroughly" means a great deal, and a lack of thoroughness covers a multitude of sanitary sins. Though physicians do not accept Dr. Chapin's ideas as regards the wisdom or advisability of doing away with disinfection, they ought not to lose the idea that the importance of sanitation should be impressed on the public and that every means should be used to educate the people to increase their vital resistance and to make themselves immune. Dr. Egbert said that he feels from his own experience that the laity certainly (and sometimes even medical students) do not get that idea from us as forcibly and persistently as they should.

DR. CHARLES V. CHAPIN, Providence, R. I., explained what he meant by "cleanliness." In some of the Paris hospitals for a few years past they have been treating cases of scarlet fever, diphtheria, measles, smallpox, in what is practically the same ward. The same nurse has gone to a case of scarlet fever and then to a case of diphtheria and then to a case of measles. They have done that without the disease extending from one to another, except in a very few instances—far less often than occurs in most contagious hospitals. That is done by the nurses

practicing, as they leave one case and go to another, the same sort of personal cleanliness that surgeons practice in their work. Medical antisepsis is what is needed in the care of contagious diseases. Dr. Chapin wants all people to treat contagious disease exactly in that way, and he never can get them to do it so long as they believe that they can treat it as carelessly as they please, and when they get through call on the health officer to fumigate and thus stop off all sources of danger. He thinks that the psychic effect of disinfection is wholly bad.

He said that instances (usually one) have been mentioned in which it seemed that a disease was transmitted by clothing or some other inanimate object. Dr. Chapin said that he did not deny that every single one of those cases referred to was caused in just exactly that way, but he would be entirely justified in doubting it, because no one presented any stronger evidence than the physicians who mentioned such cases in connection with yellow fever, and we now know that there was not the slightest basis of fact in any single one of those cases. The sole question we have to consider, he said, is whether or not that mode of dissemination of disease is an important factor in the maintenance of contagious disease in the community. He does not think that the advocates of disinfection have substantiated their theory that fomites are an important factor. This subject can only be settled in a statistical manner, and the collection of statistics is very difficult. There is no question but the chance of transmission in the ways suggested is greater in tuberculosis than in any other of the common diseases we have in this country. Dr. Chapin said that physicians often hear about cases of tuberculosis contracted in an infected house, but he has never seen that any infection in the lung diseases comes from the house, except in the living beings who are the occupants of the house. The men who advocate this theory of transmission by fomites should present evidence which is unimpeachable to support their view.

Dr. Chapin said that he believes in disinfection when there is reason. He thinks that we must treat different diseases in different ways. In his paper he said he referred chiefly to the routine work of the health officer in this country, and especially in the common diseases, such as scarlet fever, diphtheria, tuberculosis, typhoid, measles. He thinks that we should have disinfection in certain cases. In pandemics, suppose a person has been sick in a house for some time; no care has been taken; the patient is removed by death or otherwise; now if another and well family should come into that house he thinks that the house should be disinfected—not by the disinfection of sulphur and formaldehyd, but by elbow grease and soap and water. Even without this disinfection he thinks that the danger of infection of the second family is very slight. However, nine-tenths of the disinfection done to-day after tuberculosis is, he maintains, where the patient has been sick with the disease and has remained in the family until removed by death, and the family is going to remain right in the same house; no precautions have been taken during the long course of the disease and they expect fumigation or disinfection by the health department is going to help them to atone for all past sins of omission. He said that it is wrong for him to do it and to confirm them in the wrong idea. Again, he is called on at times to disinfect for tuberculosis when the greatest precautions have been taken over a period of months or years. It seems to him that there is no use for it, that it is possible for a tuberculosis patient to live in a room with others and to work with them and not to infect them if he will only take care of his sputum. If that is true, there is no necessity for disinfecting a house which the patient has taken care to disinfect, or, rather, not to infect. Practically, Dr. Chapin said, when the danger of infection is greatest there are very few cases in which disinfection is of the slightest good.

In diphtheria there is no question but that in a majority of cases it extends by means of bacilli in the throats and noses of well people or of convalescent people, and it is perfectly absurd and wicked, he said, to disinfect a house where there has been diphtheria unless we are very sure that the people who live in the house are no longer infected. It is possible for us to learn whether or not the people are infected. Isolation can not always be maintained in diphtheria until the physician is sure of non-infection; and, therefore, in Providence the plan of not disinfecting simply as routine was adopted. If any family wants disinfection they have to subject their throats and noses to two or more tests by culture and show that no bacilli are present. Dr. Chapin believes that the common contagious diseases are almost entirely carried by the direct contact of sick persons and infected well persons with the well; that is, by persons and not by things; and if that is so, disinfection of things, no matter how well carried out, can have no appreciable effect in checking the spread of these diseases. He believes that if to-day in the United States disinfecting after scarlet fever, diphtheria and tuberculosis should be stopped, it would not have the slightest effect on the prevalence of these diseases.

---

## STUDIES ON PHAGOCYTOSIS.*

D. H. BERGEY, M.D.
Assistant Professor of Bacteriology, University of Pennsylvania.
PHILADELPHIA.

The studies of Leishman, of Wright and Douglas, of Neufeld and Rimpau, of McFarland and Engle, and of others, have opened up a new field of investigation for the elucidation of the problem of the mechanism of immunity. The experiments that have been reported thus far have dealt almost entirely with the opsonic powers of the blood serum against staphylococci, streptococci and pneumococci, and the observations have been made exclusively on the phagocytic powers of the polymorphonuclear leucocytes, or the microphages of Metchnikoff.

It seemed desirable to ascertain whether the opsonic power of the serum was efficacious against other classes of micro-organisms, and also whether the macrophages of Metchnikoff participated in the phagocytosis. Metchnikoff himself states that in the resorption of animal cells in general it is especially the macrophages which intervene, but in natural immunity against micro-organisms positive chemiotaxis is exhibited by the microphages more than the macrophages. He states that the sensitiveness of the two chief categories of phagocytes often exhibits a marked difference and that spirilla, for example, are ingested and destroyed exclusively by the macrophages of the guinea-pig which alone exhibit the necessary positive chemiotaxis. In many other examples of natural immunity the part played by the macrophages is masked by that of the microphages.

My own experiments were carried out with the peritoneal exudate of guinea-pigs following aleuronat injections. This exudate was mixed with equal quantities of .85 per cent. sodium chlorid solution and then added to the various bacterial suspensions in equal proportions in capillary tubes. These tubes were incubated at from 34 to 36° C. for thirty minutes when smears were prepared and the number of bacteria taken up by 20 microphages and by 10 macrophages estimated. For each test on such a peritoneal exudate fresh bacterial suspensions were prepared which contained as nearly as possible equal numbers of bacteria, but no attempt was made to have an equal number of bacteria for the several tests, so that the suspensions used for the different exudates did not contain equal numbers of bacteria.

A series of ten observations was carried out on the exudate obtained from ten different animals by employing the following cultures: *Bacterium pseudodiph-*

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

*theriticum;* two cultures of *Streptococcus pyogenes,* one from urine and from the throat of a case of scarlet fever; *Micrococcus catarrhalis; Micrococcus pyogenes albus* and *Micrococcus aureus.* The results obtained in these ten observations are shown in Tables 1 and 2, Table 1 showing the average number of bacteria taken up by the microphages, Table 2 showing the average number of bacteria taken up by the macrophages. While there is considerable variation in the results obtained with the different exudates it will be seen that in a fairly constant degree the macrophages had taken up a greater number of bacteria than had the microphages. This fact is shown more definitely in the means of the ten observations in the last column of each table.

TABLE 1.—MICROPHAGES AS PHAGOCYTES.

| Culture. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | M. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bact. pseudodiph ..... | 0.7 | 0.4 | 1.0 | 1.5 | 4.3 | 2.8 | 0.8 | 0.4 | 1.1 | 0.5 | 1.46 |
| Strept. pyog (urine)... | 7.2 | 1.1 | 1.1 | 1.0 | 3.6 | 4.1 | 4.6 | 2.5 | 4.7 | 4.6 | 3.45 |
| Strep. pyog. (scarlet fever) | 4.4 | 0.4 | 2.2 | 9.0 | 6.4 | 3.8 | 1.1 | 3.8 | 4.3 | 3.7 | 3.91 |
| Mic. pyog. albus..... | 1.5 | 0.5 | 2.0 | 4.3 | 4.5 | 3.0 | 1.7 | 0.7 | 0.8 | 2.7 | 2.17 |
| Mic. pyog. aureus..... | 1.8 | 0.6 | 1.9 | 5.0 | 4.2 | 6.0 | 3.0 | 3.4 | 2.6 | 4.5 | 3.30 |
| Mic. catarrhalis..... | 1.5 | 8.2 | 0.4 | 9.2 | 4.0 | 6.2 | 1.5 | 3.1 | 2.6 | 2.3 | 3.90 |

TABLE 2.—MACROPHAGES AS PHAGOCYTES.

| Culture. | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bact. pseudodiph. | 1.3 | 0.4 | 16.2 | 9.4 | 6.3 | 5.0 | 2.6 | 1.7 | 4.4 | 1.3 | 4.86 |
| Strept. py. (urine) | 3.7 | 6.2 | 10.7 | 4.3 | 1.6 | 6.9 | 4.4 | 4.1 | 15.0 | 15.0 | 7.91 |
| Strep. pyog. (scarlet fever). | 23.4 | 5.0 | 2.4 | 4.0 | 2.1 | 5.4 | 5.4 | 1.6 | 5.3 | 12.2 | 6.78 |
| Mic. pyog. albus. | 3.2 | 0.4 | 5.5 | 3.3 | 2.3 | 8.9 | 5.6 | 1.2 | 0.6 | 3.1 | 3.41 |
| Mic. py. aureus. | 7.4 | 7.5 | 0.8 | 15.0 | 4.1 | 4.3 | 3.2 | 21.2 | 4.0 | 15.4 | 8.29 |
| Mic. catarrhalis. | 2.9 | 1.1 | 0.6 | 3.0 | 1.9 | 18.7 | 4.4 | 6.5 | 2.0 | 4.0 | 4.51 |

A second series of five experiments was undertaken with the view of ascertaining the range of bacteria susceptible to phagocytosis under similar conditions. For these observations the following organisms were employed: *Micrococcus aureus; Microspira schuylkilliensis;* and *Bacillus dysenteriæ,* Shiga. The results obtained in this series of observations are shown in Tables 3 and 4. These results are too few in number and too erratic to warrant the formulation of any definite deductions. In several instances no phagocytic action could be demonstrated, and doubt existed usually whether the spirilla and dysentery bacilli were really within the phagocytes or were merely lying on them, or adherent to their exterior. The results indicate that the opsonic power of the blood serum is much more pronounced for those bacteria which induce septicemia than for those in which a more distinct bactericidal immunity is induced.

TABLE 3.—MICROPHAGES AS PHAGOCYTES.

| Culture. | 1. | 2. | 3. | 4. | 5. |
|---|---|---|---|---|---|
| Mic. pyog. aureus..... | 4.4 | 2.0 | 0.8 | 2.0 | 2.5 |
| Mc. sp. Schuylkill ..... | 0.5 | 0.1 | 0.15 | 0 | 5.2 |
| B. dysenteriæ ..... | 0.6 | 0.6 | 0.7 | 0.6 | 3.0 |

TABLE 4.—MACROPHAGES AS PHAGOCYTES.

| Culture. | 1. | 2. | 3. | 4. | 5. |
|---|---|---|---|---|---|
| Mic. pyog. aureus..... | 7.2 | 2.0 | 1.6 | 2.5 | 0.5 |
| Mc. sp. Schuylkill ..... | 8.6 | 0.6 | 0 | 2.6 | 6.2 |
| B. dysenteriæ ..... | 3.0 | 0 | 2.3 | 0 | 3.0 |

**Paralysis of Ocular Muscles After Lumbar Anesthesia.**—Loeser of Berlin publishes in *Med. Klinik* for March 11 reports of 3 cases of paralysis of the ocular muscles observed after spinal analgesia. The first patient was a man of 45, operated on for hydrocele. The evening after the operation, while healing was progressing smoothly, intense headache developed and vomiting. The headache continued, and when the patient got up for the first time on the fifth day, he presented symptoms of trochlear paralysis on the right side. Recovery was complete in a week or so. The second and third patients had been operated on for hemorrhoids or hernia under stovain; spinal analgesia, and abducent paralysis developed in direct connection with the operation. This paralysis subsided very slowly. In all the cases the first symptoms were noticed as the patient first left his bed.

## *Clinical Notes*

### THE TREATMENT OF FRACTURES OF THE FEMUR

#### WITH A DOUBLE ANGULAR PLASTER-OF-PARIS SPLINT AND ITS APPLICATION BY A SECTIONAL METHOD.

J. H. DOWNEY, M.D.
GAINESVILLE, GA.

Owing to the difficulty of obtaining the results without deformity and the great suffering and long confinement of patients suffering from fractures of the femur, this condition has interested the profession from time immemorial.

The different methods, devices and apparatus devised for the treatment of these fractures are too numerous to mention, and I have not added another wholly new one to this list, but have tried to get the best points of each and to combine them into one which will meet every indication of any fracture of the femur, whether of the neck, upper, middle or lower third, and one open to the fewest rational objections. It is conceded that no straight splint can be employed successfully in fractures of the upper and lower end of the femur. If this be true, then the straight plaster cast, Buck's extension and the long-side splint of Hamilton must be laid aside or used only in fractures of the middle third. The recognition of this fact led Esmarch to use a double inclined plane, Nathan R. Smith to devise his long anterior splint and, later, Hodgen his posterior suspension. These three last methods had the important idea in view of making the long fragment conform in direction to the short one, and at the same time to get the nearest approach to a natural restful position of the leg and greatest amount of normal muscular relaxation. Each of these methods meets the indications mentioned, provided the patient can be kept still, yet none of them meets the fundamental indication for which they were devised. "The objects in the treatment are to reduce the fracture, to maintain reduction immobilized until union is firm, and to restore the leg to its normal usefulness."

Does any method given in our text-books to-day meet the above-mentioned objects in treatment? I believe nearly all will agree with me that they do not, and most of them seem to have things reversed, as, e. g., the immobilization of the patient instead of the fracture. Each splint or device I have spoken of has many merits, especially the Hodgen, and I do not speak of them in a spirit of criticism, by any means. They have each served the profession well and have aided in relieving suffering humanity. As we can never reach a state of perfection, we must always be looking for something better. Let us combine the good points of all these methods and see if we can not meet all these requirements and at the same time give the patient a reasonable degree of comfort and safety and the freedom of any desired movement during this long process of repair without increase in present pain or risk of future deformity. Esmarch, Smith, Hodgen and Cabot's apparatus give us position; Buck's apparatus, extension; plaster-of-Paris, fixation.

#### AUTHOR'S DEVICE.

I want to combine all these important points in one universal dressing known as the double angular plaster-of-Paris splint, which, if properly applied, will meet every indication.

To illustrate, let us assume that we have a supercondyloid fracture. We must flex the leg on the thigh.

the thigh on the abdomen, then apply a plaster-of-Paris cast from the base of the toes to just above the knee in this properly flexed position (Fig.1); make the cast a little thicker just below the knee and allow the plaster to set; when sufficiently hard, which takes about ten minutes, arrange for extension and counter-extension.

If not provided with an apparatus like than shown in the illustrations, a folded sheet may be passed between

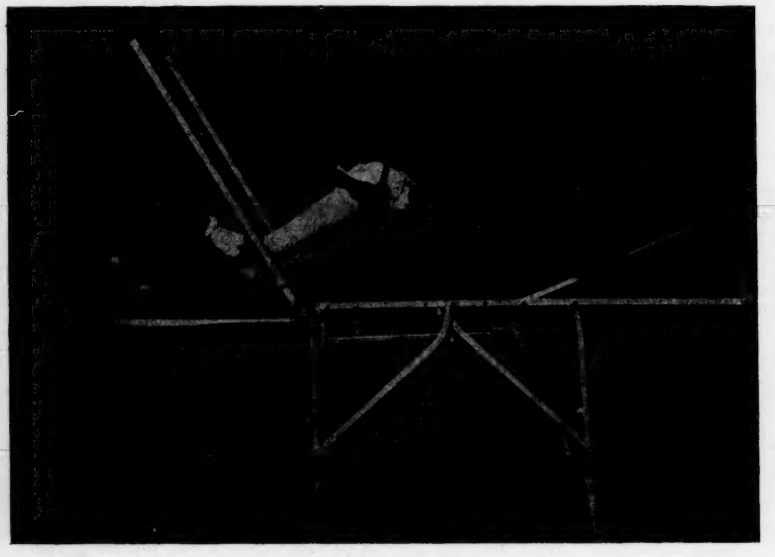


Figure 1.

the legs and brought well up against the perineum with a strong man holding each end. Have another assistant place the right hand under the knee, the left hand over the front of the lower end of the tibia. By these assistants pulling in opposite directions the necessary amount of extension can be effectually made in this position and all the aid of natural muscular relaxation possible obtained.

The traction being steadily kept up, the fragments are brought into apposition and held firm while the upper section is applied. Pad the parts to be covered by plaster in cotton batting held by a roller bandage; take a couple of heaping tablespoonfuls of dry plaster, moisten to the consistency of thin dough, rub thoroughly around the upper end of the lower section, start with the plaster roller at this point and go up in the usual way to the ensiform cartilage, making as many layers as necessary to give the desired strength. Opposite the hip joint there is only a three-fourths circle in the cast; this makes a weak point and is one of the greatest strain, consequently reinforcement will have to be made thoroughly or it will break. This can be done by an up-and-down back-and-forth application of the plaster roller or by placing between the layers of plaster narrow strips of tin or strips of fine wire gauze. The addition of a few extra turns of roller at the welding point just above the knee completes the dressing (Fig. 2)

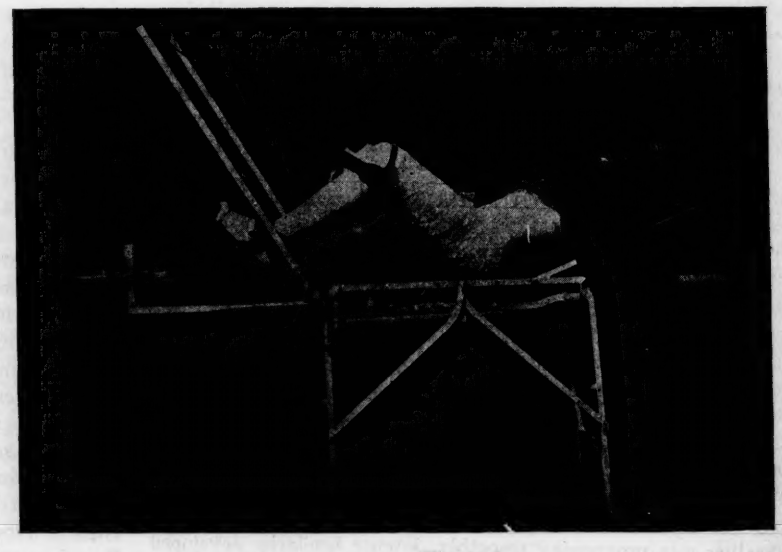


Figure 2.

### ADVANTAGES OF THE DRESSING.

Note carefully the position of the limb in Figure 2. There are two angles, one at the knee, the other at the hip. These angles serve a threefold purpose:

1. *Position.*—By placing the muscles in a natural state of relaxation the long and the short fragments are accommodated and brought in line with each other. They serve as points of fixation, prevent shortening and laxation which is a great comfort to the patient. It places him in a fixed sitting position, which can be assumed at will in comfort. In walking with the crutch the foot is out of the way; when in bed he can lie on the side or back by placing a folded quilt under the knee. By this splint we give the patient the freedom of every movement without fear of pain or injury.

2. *Extension.*—We could ask no better extension than that afforded by the abrupt angles at the knee and hip.

3. *Fixation.*—The plaster cast is the most perfect form of fixation, fitting the limb as accurately as an elastic stocking; it prevents movement of the fragments, muscular contraction and pain.

By this method three-fourths of the horrors of fracture of the femur are done away with by giving the patient the freedom of lying, sitting or walking at his pleasure with the assurance of a good result, and all this with a remarkably small amount of pain. Can as much be said for any other method? What objection or drawback is there to this method? There are two: One is the weight of cast sufficiently strong to be effectual; the other is the danger of swelling of the limb and the cutting off of the circulation to the distal portions. As to the first, a plaster cast on an adult six feet high and weighing 175 pounds, from base of toes to ensiform cartilage on the second day, after evaporation has taken place, weighs approximately eight and one-half pounds; an extra heavy one would weigh ten pounds. This is nothing when compared with a ten- or fifteen-pound Buck's extension weight or partial body suspension by a Smith or Hodgen's splint.

The greatest drawback or danger is swelling or obstruction of the circulation. This can be obviated by laying the cast open and applying an ordinary roller bandage; with this there is no more danger than from any other splint, and yet it fits the limb perfectly, and later, when swelling subsides, a strip can be cut and the edges brought together, and there is still a perfect splint, one that will give comfort and pleasure to the patient, success and happiness to the physician.

## A CASE OF TOTAL ATROPHY OF THE STOMACH.

G. PAUL LAROQUE, M.D.
AND
MATT O. BURKE, M.D.
RICHMOND, VA.

The following case is worthy of record. The condition is exceedingly rare and should not be confounded with hysteric affections on the one hand nor with gastric carcinoma on the other. The patient was studied by us through the courtesy of Dr. Stuart McGuire.

*History.*—Two years ago, a dentist, about 35 years of age, after a couple of years very hard work associated with much loss of sleep, suddenly became the victim of "nervous breakdown," and at about the same time after dietetic indiscretion, suffered acute gastritis. From the latter he rapidly recovered and was advised to take a sea voyage, which he did. The voyage was rough and he was made violently seasick for a week. After this he began to take excessive care of himself and particularly of his stomach, carefully avoiding eating a full meal and never completely gratifying his hunger for fear of an attack of indigestion. On questioning him carefully we learned that he had not had indigestion since his primary attack and that since he was seasick he had not vomited nor been nauseated.

*Symptoms.*—His symptoms throughout were negative save that he had emaciated in the past 18 months from his normal weight of 160 pounds to 80 pounds. He had had at no time any colic or indigestion or pain either before or after eating. He had lost correspondingly of strength and his bowels did not move as regularly as they previously did, still he was not constipated. He had been regularly hungry till the last 6 months but was always afraid to eat. For the past 6 months he was less hungry than formerly. Since the beginning of his illness he had not taken at any time a full meal and during the past 6 months had lived on fluids with an occasional piece of toast. The greatest quantity, even of milk, which he had taken, was two-thirds of an ordinary tumblerful, and now even this caused fulness in the epigastrium.

*Physical Examination.*—Patient was a remarkably emaciated man in whom every superficially-placed bone can be outlined. He was slightly anemic and yet his appearance was not that of cachexia. Weight, 80 pounds. His tongue was clean, red, small and moist. Exhaustive examination of every organ in his body failed to detect evidence of disease, except in the stomach. The abdomen was scaphoid in shape, so much retracted that the pulsations of the abdominal aorta were distinctly visible. There was no rigidity nor tenderness anywhere and the anterior portion of the spinal column was easily palpable through the abdomen. The pylorus could not be felt. Urine and feces were perfectly normal.

A test meal of bread and water was administered and could not be recovered at the end of an hour. The effort to wash his stomach was so exhausting to him that this was not attempted again till he could be strengthened by stimulating nutritive enemata. At the end of about a week after a test meal, the gastric contents showed an entire absence of HCl and yet no lactic acid was found. His gastric capacity was greatly diminished (stomach held only 8 fluid ounces).

*Diagnosis.*—Voluntary starvation. Secondary atrophy of the stomach.

*Treatment.*—He was placed under nourishing treatment. His dietary was carefully arranged so as to avoid at any time giving him sufficient quantity to cause the slightest discomfort, lest he should again become afraid to eat. He was, therefore, fed small quantities often, gradually increasing the quantity and increasing the intervals between feedings, in a manner very similar to that employed in training an infant stomach to solid food.

Under this treatment the patient gained 5 pounds weekly for 5 weeks. By this time he was on regular house diet but since he could not take a full meal at once, he was given eggs and milk between meals. About this time he failed to gain more than about a pound a week. A week or so later his gastric contents still failed to show HCl.

*Operation.*—The man being about 35 years old, it was decided to make an exploratory incision in the hope that carcinoma of the stomach could be discovered in time for radical cure. Operation revealed an atrophied stomach about the size of an ordinary tumbler with no sign of infiltration nor any evidence of structural change.

---

## A CASE OF TETANUS NEONATORUM WITH RECOVERY.

E. L. DEWEY, M.D. AND W. E. PUTNAM, M.D.
WHITING, IND.

*History.*—Infant, F., aged 10 days. Mother and child were attended by a midwife until the ninth day, when the present illness began. The mother noticed that the baby was cross and irritable and was unable to nurse, and the jaw was set.

*Examination.*—Temperature, 101.5. Trismus, rigidity and retraction of the neck were marked. The navel was red and swollen, and several drops of pus were pressed out.

*Treatment.*—The infected area was opened with a knife and cauterized with 95 per cent. carbolic acid. Ten cubic centimeters of antitetanic serum were administered over the sciatic nerve at the gluteal fold. Two grains of chloral hydrate and four grains of potassium bromid were given by rectum every four hours. Camphorated tincture of opium was given in five-drop doses as often as necessary to keep the baby sleeping. The child was nourished with mother's milk given with a medicine dropper, the jaws being separated with the finger for the purpose.

*Course of the Disease.*—July 18: At 8 a. m. the temperature was 100.4; at 2 p. m. it was the same. Ten cubic centimeters of antitetanic serum were administered over the sciatic nerve at the gluteal fold. The opium, chloral and bromid were continued. The rigidity extended to the muscles of the back and lower extremities; there were opisthotonos and cynosis if the baby was disturbed.

July 19: At 8 a. m. the temperature was 102.4; at 2 p. m. it was 103.6. Antitetanic serum was again administered in the same situation. At 8 p. m. the temperature was 101.3. The bromid and opium were continued. The opisthotonos and cyanosis remained about the same.

July 20: At 8 a. m. the temperature was 103.2. Ten cubic centimeters of antitetanic serum were injected into spinal cord between the fourth and fifth lumbar vertebræ. At 7:30 p. m. the temperature was 100.6. The same amount of antitetanic serum was injected into the spinal cord at the lumbrosacral joint. Five minims of a 5 per cent. solution of carbolic acid were given hypodermatically every three hours and increased 5 minims at each dose till 20 minims were being given at each dose. The chloral, bromid and opium were continued. The trismus was less marked; the opisthotonos and cyanosis were still present. The child was able to take nourishment from the nursing bottle.

July 27: Chloral and bromid were discontinued and the centimeters of antitetanic serum were injected into the spinal cord between the third and fourth lumbar vertebræ. At 8 p. m. the temperature was 98.6. There was some trismus and rigidity of the back and lower extremities when the baby was disturbed.

July 22: At 8 a. m. the temperature was 98.6; at 7 p. m. it was 101.2. Ten cubic centimeters of antitetanic serum were injected into the spinal cord between the fourth and fifth lumbar vertebræ. The chloral, bromid, opium and carbolic acid were continued.

July 23: At 11 a. m. the temperature was 98.6; at 8 p. m. it was 99.2. The hypodermic injections of carbolic acid were discontinued.

July 24: At 8 a. m. the temperature was 98; at 8 p. m. it was 98.6. There was still some rigidity of the back and lower extremities when the baby was disturbed.

July 25: At 8 a. m. the temperature was 98.6; at 8 p. m. it was 98.8. The chloral and bromid were ordered given three times a day.

July 26: At 8 a. m. the temperature was 98.4. The baby was able to nurse from mother for the first time since the illness began. There was a diffused erythema all over the body. There was no rigidity of the back and lower extremities.

July 26: Chloral and bromid were discontinued and the child was discharged cured on July 29.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 DEARBORN AVENUE . . . . CHICAGO, ILL.

Cable Address . . . "Medic, Chicago"

Subscription price.....Five dollars per annum in advance

[*For other information see second page following reading matter.*]

SATURDAY, AUGUST 25, 1906.

The space given to statistics of colleges and state boards in this issue, our annual Educational Number, requires the omission of some departments and the abbreviation of others.

---

As will be noticed, we have combined in this number the statistics relating to the examinations for license to practice medicine conducted by the various state licensing and examining boards during 1905, with the medical college statistics covering the year ending June 30, 1906. While there are advantages in combining all this matter in one issue of THE JOURNAL, we find it not altogether satisfactory. In the first place, the statistics regarding the state board examinations might have been published at least three months earlier. Again the work connected with tabulating this matter, making deductions, etc., is very great, and this makes the labor burdensome when it all comes at the same time. We shall probably hereafter, therefore, publish the statistics in two different numbers, as we have done in the past.

---

## COUNTRY PRACTICE.

Suggestions as to available locations for physicians can scarcely be out of place at any time, but we are inclined to believe that, owing to hospital appointments, postgraduate vacations and discouragement after ineffectual attempts to secure a foothold in crowded centers, during the "healthiest" season of the year, a very large proportion of the members of spring graduating classes are seeking locations late in the summer and early in the fall.

In England, there is an ethical and economic rule, not, of course, strictly enforced, that the young physician shall seek an actual vacancy, left by the death or retirement of a practitioner. In this country, no such principle is recognized and competition, provided that it is fair and honorable, is allowable. With considerable justice, the young graduate is often advised to select the most desirable location that he can possibly command, even at some risk of failure, to make his charges equal to those of the most firmly established practitioners of the neighborhood, to hang out his sign in the same row with the most successful older men and, in general, to aim high.

With all deference to the idea that every barefoot boy may be president and that neither heredity nor early mental mediocrity is a bar to success, there is much wisdom in having the young man in any profession, indeed, before selecting his life work, make a careful, impersonal, judicial canvass of his probable capabilities, and such a course would undoubtedly result in less aggregate waste of effort, less humiliating disappointment and greater total achievement than the policy of following the dreams of ambition. "Aim high" is a specious motto. "Aim to hit the mark," with regard to the carrying power of the weapon and ammunition possessed, is a much better one.

It is obvious that one who has a reasonable ambition for medical teaching, hospital work and specialization should remain in a city, though not necessarily the one in which his medical studies have been pursued, nor should longitude be too slavishly considered. For the man whose tastes and aptitude mark him for the general practice of medicine, the country or small town should receive fair consideration and the prejudice in favor of the city should be taken only at its true value.

A practical, initial reason for preferring the country—and we shall include in this term the village or small town in which most so-called country doctors actually reside—is that the English rule of seeking a real vacancy can be followed more literally than in the city. Any possible fluctuation in the medical population of a large city fails to create a genuine need of another practitioner or to render it impossible for one or more to secure a foothold without displacing some one else. In a village with its tributary country, it is, on the other hand, easy to determine whether a vacancy exists or not. The fact should not be overlooked that to attempt to establish oneself in such a community by driving out a veteran physician may and should fail.

It may be stated as a fact, that, in this country, less than 600 inhabitants support one physician. Unfortunately, this support is far from ideal and the ratio should be very much larger. Obviously, the general wealth of a community, its dependence on medical charity, and the prevalence of disease, accident, and the birth rate, must be considered, as well as the arithmetical ratio. It is also a matter of general observation that a new—not necessarily a young or even a recently graduated physician—in a city, requires about three years to build up his practice to a point at which he can be self-supporting, unless he has unusual influence or unless the circumstances are otherwise unusual. In the country, a practice may reasonably be expected to be adequate for self-support within a year and the same statement applies to certain isolated—but not often desirable—sections of cities. Salaried positions, on a fair living basis and in ethical lines of medical work, afford support for about 2 per cent. of the medical profession, but the more desirable, as in the government medical service, state institutions, private sanitariums and municipal boards of health, are not available for the average man or for immediate selection after graduation.

The urban population of the United States—meaning residents in towns and cities of 8,000 and over was 20.9 per cent. in 1870, 22.6 per cent. in 1880, 29.2 per cent. in 1890 and 33.1 per cent. in 1900. It is obvious that a town of 8,000 inhabitants is not a city in the ordinary social and sanitary sense and that physicians residing in such towns must have a considerable amount of country practice. These statistics show that there has been, in the last ten years, a decided slowing of the tide from country to city, especially if we consider that the natural, local increase of population in cities is a large factor in the total increase for the nation and that the same growth would bring a great many villages past the 8,000 limit. At any rate, from purely statistical reasons, it is obvious that two-thirds of the recent graduates should seek locations in the country, and probably this fraction would be increased to four-fifths if we include as cities, only such centers of population as have 15,000 or more inhabitants.

As a matter of fact, an approximate study of statistics shows that the normal distribution of physicians is not maintained. For example, the cities of New York state, of 100,000 or more inhabitants, containing about 52 per cent. of the population, have about 70 per cent. of the physicians. While the support of many specialists and physicians of note, living in cities, receives a substantial contribution from the country, this applies to relatively few in the aggregate and seldom amounts to more than a quarter of the total income of an individual physician. Moreover, large cities contain, to a disproportionate degree, persons who can not help in the support of our profession.

Passing from the statistic to the general impressionistic argument, we find that the young physician supported outside his practice is a type almost solely limited to cities and that while the gross income of a fairly mature and successful physician in a small village or town usually averages from $2,500 to $5,000, probably not more than 20 per cent., if as many, of city physicians, pass the lower figure. A strictly country practice, however, rarely exceeds $3,500, the fees and distances covered in visiting patients rendering it almost impossible to do a larger "business." On the other hand, it should be remembered that the scale of living and the actual prices of rent or its equivalent, maintenance of equipage, provisions, etc., are much lower in the country than in the city. Thus, as compared with his clientele or with his professional colleagues, the country practitioner with a gross income of $1,500, is as well off as the city practitioner with a gross income of $2,500.

It may not be out of place, also, to point out that the country or small village by no means corresponds at present to the description of rural simplicity of the fifth reader and that the twentieth century country doctor in most parts of the United States, is much less of a hero and more fortunate in his material and social life than Ian MacLaren and various other writers of fiction would give us to believe.

The city dweller is too apt to imagine that what have been called city conveniences are out of the question in the country. Water supplies, gas and electricity are becoming common in villages of even 1,500 inhabitants and less. Even where coöperation has not already secured these conveniences, the improved wind mill or gasoline engine and acetylene or naphtha gas plants, place them within the reach of any fairly well-to-do country resident at an initial cost which is not excessive, when the cheapness of maintenance is considered. The telephone is also, now, relatively as common in the country as in the city and is much less expensive. Rural free delivery of mail and local deliveries of merchandise are also in common use.

It is true that educational and social advantages are easier of access in the city, yet good high schools, in the more enlightened states, are found in practically every village, local libraries are common and many public libraries in cities have arranged for suburban service. In many parts of the country, the train or trolley service to and from large cities places the resident of a village thirty miles away within easy and rapid access of the business center.

Of course the ambitions of the country doctor are somewhat limited in regard to certain forms of professional activity. At the same time, these limitations are by no means so serious nor so absolute as might appear. The tendency is for medical teaching to become more and more a specialty by itself, conducted for the most part by men who do not engage in practice. Conversely, the physician, as such, is tending to return to the status of a private practitioner and to make his reputation accordingly. Small hospitals have arisen in the small towns and a great deal of good surgery is now done in communities tributary to large cities which was formerly done by the city surgeon.

It must be admitted that the rural districts described in the pioneer tales and in the fifth reader still exist and that the simple life there found is not particularly attractive to the average twentieth century American. On the other hand, forces are at work with an ever increasing momentum to check the excessive development of urban life at the expense of rural life and to render the country and small village more and more desirable, not only for our own profession, but for the better class of the population generally. The man who somewhat anticipates the turn of the tide of population may well feel that he is making a wise investment for the future.

---

## THE NECESSITY FOR BETTER PROVISION FOR LEGAL MEDICINE IN THIS COUNTRY.

Medical jurisprudence or legal medicine, considered as a distinct discipline, is fast becoming a neglected subject in the American medical curriculum. It is true that many state boards specify a certain amount of instruction in something that is loosely called medical

jurisprudence, but it does not appear that the exact field of knowledge that this subject should cover has been accurately defined and, judging from the lists of questions published from time to time by state boards, little or no attention is paid to the subject in the various state examinations for license.

It is also true that many of our medical schools offer brief courses of instruction in medical jurisprudence, but such a thing as a definitely organized department of medical jurisprudence with the necessary laboratory and other special facilities does not appear to exist in any of our medical schools. The actual state of affairs in this respect may be learned from the following summary of the work actually given in some of our well-known medical schools:

1. Harvard Medical School has a voluntary course of six lectures by a local judge. The course is not taught as a separate study, instruction being given by the various departments in the medicolegal aspects of the various subjects.

2. Johns Hopkins University. Instruction is given in the third and fourth years, definite number of hours not given, excepting one hour a week; probably between twenty to thirty hours given.

3. University of Michigan. Thirty hours of lectures given to the joint senior classes in law and medicine.

4. Northwestern University Medical School gives eight lectures and sixteen recitations in senior year.

5. Yale Medical School, during the senior year, gives one hour a week for two terms, total about twenty hours, which is devoted entirely to lecture work.

6. University of California, during the third year, gives about twenty hours of lecture work.

7. University of Minnesota, during the last half of the senior year, devotes between sixteen to twenty hours to lectures and recitations.

8. Washington University, St. Louis. During the second part of the senior year, between twenty-five and thirty hours are given to lectures by different men, including two lectures at special postmortem.

9. University of Pennsylvania, during the first part of the fourth year, devotes about sixteen hours to the subject.

10. McGill University, Montreal, devotes twenty hours during junior year to lectures and practical work. The practical work takes up blood stains both with the microscope and spectroscope.

The New York schools, Columbia, Bellevue, and Cornell, make no mention of the subject whatever. Medical jurisprudence is not among the courses required by the New York Board of Regents.

In our large cities the appointment of untrained men, which so far has been the rule, to such places as coroner's physician, as well as the frequent changes for purely political reasons of such appointees, coupled with loose administration and total failure to provide permanent and proper facilities for even only the routine work, have long since accustomed us to put up with much that is crude and discreditable in this important branch of public service. At the same time as this is true in general, it should not be forgotten that we have many men who, by devoting themselves to special lines, largely in the capacity of private experts, have become recognized authorities in their chosen fields of legal medicine. In the smaller towns and the rural communities, in which the opportunities for medicolegal work necessarily are limited, the appreciation of some of the most fundamental medicolegal principles must often be slight if one may judge, for instance, from the number of improperly conducted and incomplete postmortem examinations in suspected criminal cases. The fundamental rule that in order to establish definitely the real cause of death (whenever that is possible) it is essential to examine all the body is frequently neglected and sometimes this neglect results in the miscarriage of justice.

In other countries legal medicine appears to receive a far greater degree of attention than in ours. As examples may be cited Germany and Austria, with their professorships of legal medicine, their special medicolegal institutes equipped with the necessary laboratories and apparatus for pathologic and chemical work; here also a certain amount of definite knowledge of the subject on the part of the applicants is necessary for license to practice medicine. In France and Italy this subject receives also special attention, and the late Professor Brouardel, of Paris, was one of the great authorities in this field. In Europe special journals have existed for years devoted to the publication of scientific investigations, practical observations and discussions of medicolegal problems. When one considers the relative paucity of original contributions to medicolegal subjects here, the impression results that conditions in this country so far surely have not been so favorable as one would wish for the growth of interest in and appreciation of the practical and scientific importance of this special branch of medicine.

The remedy? Improvement in the existing conditions which are unsatisfactory from the point of view of the public and discreditable to the medical profession, must be sought in at least two different directions. In the first place, provision should be made for the appointment in our larger cities, where the normal amount of criminal and other medicolegal work clearly warrants it, of medicolegal experts, especially in pathologic and chemical lines. These appointments should be permanent and they should be made according to merit, and not, as at present, for political reasons, when made at all. The salaries should be large enough to attract good men to the positions. When we consider the character of the work and the special qualifications necessary to do it well, the hardships of such positions should command at least about the same grade of salaries as are paid to those professors in our better university medical schools who devote themselves wholly to the teaching of and investigation in the fundamental branches. Then there should be provided assistants and adequate facilities for the work in the form of suitable postmortem rooms, with laboratories and apparatus for microscopic, bacteriologic and chemical purposes and with space for the establishment of museums in which valuable specimens of various kinds could be placed for use in instruction and study. In many of our cities an arrangement of this general character would be economical, because the large special expert fees now paid in so many notorious

murder cases would be rendered largely unnecessary, to say nothing of the greater promptness and thoroughness of the examinations.

On account of the relatively small population of our ordinary counties (exclusive, of course, of those containing large cities), it can not be expected that each county ever will maintain a permanent, competent medicolegal expert. On the other hand, the state might well establish a state medicolegal office or institute for the purpose of furnishing (outside of the larger cities) prompt and skilled medicolegal service in criminal and other cases demanding such service.

In the second place the instruction in legal medicine in the medical schools should be improved and extended. By this it is not meant that a full, new department, with separate staff and equipment, must be established in every medical school in the country. This would be possible, to a greater or less degree, in the case of only a small number of university schools that could enter into mutually advantageous relations with the city in which they are located (or possibly with the state). Thus, the professor of legal medicine in Harvard University, for instance, might very well be the chief medicolegal officer of Boston—indeed, we believe some arrangement like that now exists—the institute and equipment being furnished in accord with arrangement between the city and the university. Naturally, the students in schools so favorably situated as this would be in this case would enjoy special advantages, and in time these advantages would be sought by those who desired to become specially trained in medicolegal work. In other words, schools of this kind would become special centers for the training of men in what we are calling legal medicine. And such centers may be needed more and more in the future as the opportunities for careers in legal medicine increase and enlarge.

In the medical schools in general in which legal medicine can be taught only in outline or in which instruction is supposed to be given by the various departments in the medicolegal aspects of their various subjects, it would seem to be desirable that the faculties make special efforts to strengthen the work, and especially in the direction of better co-ordination between the various departments. Thus, it is particularly necessary that students be instructed more carefully in the matter of postmortem examination in medicolegal cases. Experience in criminal cases, especially in cases of abortion and poisoning, shows that practitioners often have no adequate conception of the thoroughness and objectiveness required.

If it were possible to promote development in the directions outlined, there would soon be established in this country higher standards for medicolegal work, at least in the lines touched on here, and the law in general would receive more direct and greater benefit now of existing technical knowledge in medicine.

## EXAMINATION FOR A HIGHER MEDICAL CERTIFICATE IN FRANCE.

An interesting and important decree has recently been promulgated by the Minister of Public Instruction of France, which appears in the *Semaine Médicale*, August 1, under the heading, "*Décret instituant un certificat d'études médicales supérieures*," and which is commented on at some length in the same issue by Prof. Ch. Bouchard.

The decree outlines in detail a new plan of examination for those who desire to secure a certificate of superior attainment which will make them eligible to positions in any of the medical faculties of France, or which may serve as evidence of especial qualifications wherever they may wish to pursue research or engage in teaching. The statute of 1874 required that a candidate for a teaching position must hold himself in readiness to pass an examination at any time in any or all of the branches of medicine. The obligation thus imposed on the young physician to keep fresh in memory an enormous mass of facts entailed such an expenditure of time and energy that it operated as a serious bar to original investigation. To this Professor Bouchard attributes the fact that France was relatively sterile in research and original contributions to knowledge until 1887, when the law was modified by eliminating the examinations in anatomy and physiology, and by permitting the candidate in immediate preparation for the oral test in pathologic anatomy to have access to books in the national library. He was also required to submit a thesis embodying the results of his own researches. Unhappily, however, this resulted in neglect of the young physicians to keep up their interest and their knowledge in the medical branches, other than those in which they were engaged in research, and the result, while greatly stimulating investigation in special lines, the fruits of which have been abundant and gratifying, was the production of a body of younger men not possessing that broad general information which is indispensable to the successful teacher.

The recent degree may be regarded as a compromise between the statute of 1874 and the amendment of 1887. It provides for examinations, to be held semi-annually, by properly constituted juries, in twenty different groups of subjects, and the examination is to consist of: 1. A composition on anatomy, physiology and histology, lasting four hours, the question discussed to be one of three drawn by lot from those provided by the jury. This examination is to be held in a closed room, without access by the candidate to any aids whatsoever. 2. An oral examination on one of three question in general pathology, similarly drawn, to continue not more than three-quarters of an hour after three hours for preparation by the candidate in a closed room without aid; and, 3. A practical demonstration in pathologic anatomy, comprising the various methods of exploration of the tissues and organs.

Similar examinations are provided for candidates who seek positions in the schools of pharmacy. The first examination is to be held in October, 1907, and, after January, 1908, they are to be held semi-annually. Each jury is to be composed of nine members, selected by the Minister of Public Instruction from the faculties of France, not more than four members of any one school, however, to be drawn on any jury. The candidate may submit to one, two or all three of the tests at any one examination as he may elect. Having satisfactorily passed these examinations, he is to receive the *"certificat d'études médicales supérieures,"* and he will not thereafter be required to take any further examination, but becomes at once eligible for appointment in any faculty of his choice, when there may be a vacancy, as chief of clinic, laboratory assistant or substitute professor.

It is apparent that the new plan has been considered with great care by the council for higher education of France, and is expected to result in a decided improvement in the quality of the accessions to the medical faculties, while, at the same time, it will preserve to the younger physicians that leisure, freedom and tranquillity of spirit which are essential to original investigation.

## AN INCREASE IN MEDICAL COLLEGES.

One discouraging thing in the statistics published this week is the fact that, while small, there has been an increase rather than a decrease in the number of medical schools. On the other hand there is, here and there, an indication of a desire for betterment by combining institutions. During the year the Central Medical College of St. Joseph, Mo., and the Ensworth Medical College of St. Joseph, Mo., merged into the Ensworth-Central Medical College of St. Joseph, Mo. The Medico-Chirurgical College of Kansas City, Mo., the Kansas City Medical College of Kansas City, Mo., and the College of Physicians and Surgeons of Kansas City, Kan., united to form the Medical Department of the University of Kansas. The most noteworthy merger, however, was that through which the Fort Wayne College of Medicine, the Medical College of Indiana and the Central College of Physicians and Surgeons of Indianapolis became the Indiana Medical College, the school of medicine of Purdue University, the latter a semi-state institution. Each of these three schools had become a well-established and recognized institution, and considerable self-sacrificing spirit was shown on the part of the members of each of the faculties in giving up their respective institutions for the sake of having one good school in the state. It is to be regretted, therefore, that another school is being started in Indianapolis, so that, in spite of the merger, there are still to be two schools in that city. We make this comment as a general proposition without entering into the merits of the case. It is, however, such instances as this that discourage those who are desirous of eliminating weak schools by combining two or more into one strong one. In several locations where two, three or more colleges are struggling along with difficulty, not able to do good, efficient work through lack of equipment, futile efforts have been or are being made to unite them into one institution. Doubtless in time personal ambition on the part of the few will give way to the best interests of the many and minor difficulties be overcome and one strong college take the place of two or more weak ones. Standing, as our country does, as one of the leading nations in commerce, in the arts, in the sciences and in general education and enlightenment, it is certainly to be deplored that she remains a laggard in standards of medical education.

## COLORADO'S NEW REQUIREMENT.

The Colorado Board of Medical Examiners has adopted new requirements regulating medical licensure which are certainly to be commended and which place that state far in advance of its former position. Up to the adoption of this new schedule, Colorado was among the states which did not require an examination of all applicants and which registered non-graduates. Graduates of the Colorado schools will hereafter be required to take the examinations the same as graduates of schools outside the state. Provision has been made for old practitioners by special sections, exempting them from the more exacting requirements that apply to recent graduates. The new schedule also contains a provision whereby commissioned medical officers of the United States Army, United States Navy and of the United States Public Health and Marine-Hospital Service may be registered without examination. This offers one class of credentials which it seems to us might be accepted in other states.

## CALIFORNIA STATE SOCIETY JOURNAL OUT OF THE ASHES.

*The California State Journal of Medicine,* Phoenix-like, has risen from the ashes of the earthquake and fire. The June number appears in the old form and size, and Editor Jones is giving evidence that he is in business at the old stand. In the number before us, however, there are items that indicate that things are not as they were. "Please do not ask for back numbers of the *Journal,* for there are none," we read. "Please don't ask for copies of the constitution and by-laws, or for back numbers of the Register of Physicians, or for programs, for there are none." The state society seems to have been in unusual ill luck, for, while practically everything was wiped out by the earthquake and fire, another visitation was made on the night of July 21, when a new edition of the register, i. e., the state directory of physicians, was destroyed by fire at Mountain View, where the printing and binding were being done. We extend our sym-

pathy to the state society officers, but congratulate them on the energy they are displaying. The offices of the society are now located at 2210 Jackson street, San Francisco.

---

## MEDICAL EDUCATION IN THE UNITED STATES.

In this number appear statistics regarding medical education in the United States for the year ending June 30, 1906. The information was obtained direct from the colleges, from the annual announcements and from other sources, special care being taken to insure correctness in every instance. We desire to express our appreciation of the assistance rendered by the officers of the medical colleges.

While there is much to regret regarding medical education in the United States, there is much to encourage the belief and hope that improvement is being made. Many of the colleges are, of their own volition, raising their standards, either by increased entrance requirements, by longer sessions, by offering better courses or by all of these. Many of the state licensing boards are also demanding higher entrance and graduating requirements, and are continually urging and adopting changes for the better. The various college associations are wielding a good influence. The establishing of a Council on Medical Education is having a decided effect. State medical societies are establishing permanent committees on medical education, some of which have already done energetic work. The outlook, we repeat, is encouraging.

*Number of Medical Students.*—The total number of medical students (matriculants) in the United States for the year ending June 30, 1906, was 25,204, a decrease of 943 below last year. Of this number, 23,116 were in attendance at the regular schools, 1,085 at the homeopathic, 644 at the eclectic, 110 at the physio-medical and 249 at the nondescript (unclassifiable) schools. The attendance at the regular schools shows a decrease of 1,003 below that of last year, a decrease of 546 below 1904 and a decrease of 1,814 below 1903. The number this year is the smallest since 1900. In the homeopathic school there was a decrease of 19 below the attendance of 1905, a decrease of 224 below 1904, there being a constant decrease since 1900, and the attendance for each of the past two years has been below that of 1880. The eclectic schools show a slight increase over last year, although the figures of each of the last two years are smaller than previous years since 1900. The physio-medical colleges had 110 this year, against 114 last year and 129 in 1904.

TABLE 4.—MEDICAL COLLEGE ATTENDANCE.

| Year. | Regular. | Homeopathic. | Eclectic. | Physio-Med. and Nondescript. | Total. |
|---|---|---|---|---|---|
| 1880..... | 9,776 | 1,220 | 830 | ... | 11,826 |
| 1890..... | 13,521 | 1,164 | 719 | ... | 15,404 |
| 1900..... | 22,710 | 1,909 | 552 | ... | 25,171 |
| 1901..... | 23,846 | 1,683 | 664 | 224 | 26,417 |
| 1902..... | 24,878 | 1,617 | 765 | 241 | 27,501 |
| 1903..... | 24,930 | 1,498 | 848 | 339 | 27,615 |
| 1904..... | 23,662 | 1,309 | 1,014 | 357 | 28,142 |
| 1905..... | 24,119 | 1,104 | 578 | 346 | 26,147 |
| 1906..... | 23,116 | 1,085 | 644 | 359 | 25,204 |

*Graduates.*—The total number of graduates for the year ending June 30, 1906, was 5,364, a decrease of 242 below 1905, 383 below 1904 and 334 below 1903. The number of graduates this year is the lowest since 1902, when it was 4,999. For the year just closed the percentage of graduates to matriculants was 21.3, or practically the same as for 1905. The percentage was 30.3 in 1904 and 22.8 in 1903. The number graduated from the regular schools was 4,841, or 285 less than in 1905 and the smallest number since 1902. From the homeopathic colleges 286 were graduates, showing an increase of 10 over last year. The eclectic colleges graduated 186, an increase of 33 over last year.

TABLE 5.—MEDICAL COLLEGE GRADUATES.

| Year. | Regular. | Homeopathic. | Eclectic. | Physio-Med. and Nondescript. | Total. |
|---|---|---|---|---|---|
| 1880..... | 9,776 | 380 | 188 | ... | 3,241 |
| 1890..... | 3,853 | 380 | 221 | ... | 4,454 |
| 1900..... | 4,715 | 413 | 86 | ... | 5,214 |
| 1901..... | 4,879 | 387 | 148 | ... | 5,444 |
| 1902..... | 4,498 | 336 | 138 | 27 | 4,999 |
| 1903..... | 5,088 | 420 | 149 | 41 | 5,698 |
| 1904..... | 5,190 | 371 | 146 | 40 | 5,747 |
| 1905..... | 5,126 | 276 | 153 | 51 | 5,606 |
| 1906..... | 4,841 | 286 | 186 | 51 | 5,364 |

*Women in Medicine.*—During the past year there were 840 women studying medicine, or 3.3 per cent of all medical students, as against 4.1 per cent last year. There were 233 graduates this year, or 4.5 per cent. of all graduates. In 1905 there were 1,073 students and 219 graduates, while in 1904 there were 1,129 students and 244 graduates. Of all women matriculants, 189 (22.5 per cent.) were in attendance at the three medical colleges for women, as compared with 221 (20.6 per cent.) in 1905. From these schools there were 33 (14.2 per cent.) graduated, as compared with 54 (24.5 per cent.) in 1905. The others matriculated in and graduated from co-educational colleges.

*Number of Colleges.*—During the past year eight colleges ceased to exist, seven (which are mentioned in another column) united with other colleges, and one, the Harvey Medical College, an evening school of Chicago, became extinct. Nine new schools have been organized. All these were regular colleges. The number of homeopathic, eclectic and physio-medical colleges remains the same. The total is 161, as against 160 last year. Of this number, 130 are regular, 18 homeopathic, 9 eclectic, 3 physio-medical and 1—the National Medical University of Chicago—is unclassifiable. Seven of the regular colleges listed do not grant degrees, teaching only the first and second years of the medical course. Sixty-one regular colleges are members of the Association of American Medical Colleges; 14 belong to the Southern Medical College Association; all the homeopathic colleges are recognized as in good standing by the college committee of the American Institute of Homeopathy, and all the eclectic colleges are members of the National Confederation of Eclectic Medical Colleges.

TABLE 6.—MEDICAL COLLEGES.

| Year. | Regular. | Homeopathic. | Eclectic. | Physio-Med. and Nondescript. | Total. |
|---|---|---|---|---|---|
| 1880..... | 72 | 12 | 6 | ... | 90 |
| 1890..... | 93 | 14 | 9 | ... | 116 |
| 1900..... | 121 | 22 | 8 | ... | 151 |
| 1901..... | 124 | 21 | 10 | 4 | 159 |
| 1902..... | 121 | 20 | 10 | 4 | 155 |
| 1903..... | 121 | 19 | 10 | 4 | 154 |
| 1904..... | 133 | 19 | 10 | 4 | 160 |
| 1905*..... | 129 | 18 | 9 | 4 | 160 |
| 1906..... | 130 | 18 | 9 | 4 | 161 |

* An error was discovered in the figures for 1905 which is corrected here.

*Length of Terms.*—Here particularly may be seen the advances in medical standards. This year 14 colleges have sessions of 6 to 6½ months' (23 to 26 weeks) duration, where there were 58 in 1901, there having been a constant decrease since that year. The 7-months schools (29 to 30 weeks) increased in number from 1901 to 1903 at the expense of the 6-months schools, but since 1903 they have likewise been decreasing gradually in number. While there has been some fluctuation among the 7½-months (29 to 30 weeks) colleges, there has been an increase. Eight-months colleges have decreased from 44 to 32, while 8½-months colleges have increased from 13 to 24. The colleges requiring more than nine months are all night schools.

TABLE 7.—COLLEGE TERMS.

| Year | 6-6½ mos 23 to 26 weeks. | | 7 mos. 27 to 28 weeks. | | 7½ mos. 29 to 30 weeks. | | 8 mos. 31 to 32 weeks. | | 8½ mos. 33 to 34 weeks. | | 9 mos. 35 to 36 weeks. | | Over 9 mos. Ov. 36 weeks | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| 1901 | 58 | 36.5 | 42 | 26.4 | 8 | 5.0 | 26 | 16.4 | 4 | 2.5 | 18 | 11.3 | 3 | 1.9 |
| 1902 | 44 | 28.4 | 44 | 28.4 | 11 | 7.1 | 33 | 21.3 | 3 | 1.9 | 18 | 11.6 | 2 | 1.3 |
| 1903 | 33 | 21.4 | 46 | 29.9 | 15 | 9.7 | 37 | 24.0 | 2 | 1.3 | 19 | 12.4 | 2 | 1.3 |
| 1904 | 27 | 16.3 | 44 | 26.5 | 22 | 13.3 | 37 | 22.3 | 13 | 7.8 | 20 | 12.0 | 3 | 1.8 |
| 1905 | 15 | 9.4 | 35 | 21.8 | 12 | 7.5 | 44 | 27.5 | 13 | 8.1 | 38 | 23.8 | 3 | 1.9 |
| 1906 | 14 | 8.7 | 35 | 21.7 | 26 | 16.1 | 32 | 19.9 | 24 | 14.9 | 28 | 17.4 | 2 | 1.3 |

*Location of Colleges.*—The size of the city in which a college is located does not necessarily indicate the value of the training afforded; nevertheless there are usually and naturally better clinical facilities in larger than in smaller cities. That the majority of senior students are in the larger cities is shown by the fact (see Table 3, page 634) that of the 148 colleges which had graduates, 97 are located in cities having 100,000 or greater population, and these schools turned out 4,103 graduates. In other words, only 65.5 per cent. of the colleges are located in cities of 100,000 or over, and yet 77 per cent. of the graduates come from these colleges. This leaves 51 colleges (34.5 per cent.) in cities of less than 100,000, and these schools turned out only 1,224 (34 per cent.) graduates. In cities above 50,000 population there are 114 colleges, which graduated 4,582 students. In other words, these cities have 77 per cent. of the colleges and yet turn out 86 per cent. of all graduates. This leaves to the cities having less than 50,000 inhabitants 33 per cent. of the colleges from which come only 14 per cent. of all graduates.

*Statistics of Colleges.*—On pages 628 and 629 will be found Table 1, giving the states containing medical colleges, the name of each college, the population of the city in which the college is located, the number registered as students during the session of 1905-06, and also the graduates (men and women) of 1906, the total number of teachers in each college and the number of weeks in the college year. The suffixes, R., H., E., Ph.M., stand for regular, homeopathic, eclectic and physio-medical. Beginning on page 589 we present, in abstract form, essential facts of all medical colleges arranged by states, and on pages 627, 633 and 635 will be found the requirements of the regular, homeopathic and eclectic medical college associations, also a list of colleges holding membership in these organizations.

## STATE BOARD EXAMINATIONS DURING 1905.

This week we publish in tabular form* the results of the examinations for medical licenses held during 1905 by the examining boards of the various states and territories, together with the number of those licensed on their credentials. Peculiar conditions existing in Georgia, Missouri and in Indian Territory made it impossible to obtain from them reports that could be utilized. No applicants were examined during the year in New Mexico. The Tables A, B, C and D are so arranged that, reading from left to right, gives the results by colleges, while reading from above downward gives results by states. The statistical information regarding medical education and licensing included in these tables will be found valuable and will bear careful study.

Table A shows the number of graduates of all years and of undergraduates who came up for examination.

TABLE E.—COLLEGES GROUPED BY STATES.
Showing Number Examined and Percentage of Failures.

| Colleges of | Graduates of 1905. | | Graduates of 1900 to 1905 | | Graduates of 1899 and previous | | Graduates of all years. | | Rank according to number Examined | Rank according to low per cent. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number Examined. | Per cent. Failed. | Number Examined. | Per cent. Failed. | Number Examined. | Per cent. Failed. | Number. Examined. | Per cent. Failed. | | |
| Alabama ..... | 40 | 7.5 | 49 | 8.2 | 6 | 16.7 | 55 | 9.0 | 20 | 5 |
| Arkansas ..... | 2 | 0. | 1 | 0. | 2 | 50.0 | 3 | 33.3 | 30 | 23 |
| California ..... | 99 | 30.0 | 156 | 29.4 | 6 | 50.0 | 162 | 30.4 | 14 | 21 |
| Colorado ..... | 6 | 16.7 | 29 | 17.2 | 5 | 20.0 | 34 | 17.6 | 24 | 13 |
| Connecticut .... | 10 | 0. | 29 | 0. | 1 | 0. | 30 | 0. | 25 | 1 |
| Dis. of Columbia | 67 | 17.9 | 126 | 21.4 | 14 | 28.5 | 140 | 21.8 | 16 | 17 |
| Georgia ..... | 9 | 0. | 18 | 33.3 | 9 | 44.4 | 27 | 37.0 | 27 | 24 |
| Illinois ..... | 668 | 4.8 | 1,005 | 8.5 | 129 | 38.0 | 1,134 | 12.0 | 1 | 8 |
| Indiana ..... | 138 | 17.4 | 156 | 19.9 | 11 | 63.7 | 167 | 22.7 | 13 | 18 |
| Iowa ..... | 151 | 5.3 | 175 | 9.7 | 40 | 53.7 | 215 | 17.7 | 10 | 14 |
| Kansas ..... | 20 | 0. | 24 | 4.1 | 5 | 40.0 | 29 | 10.3 | 26 | 6 |
| Kentucky ..... | 89 | 32.5 | 175 | 43.4 | 54 | 38.9 | 229 | 42.3 | 9 | 26 |
| Louisiana ..... | 81 | 11.1 | 99 | 19.1 | 3 | 33.3 | 102 | 19.6 | 17 | 15 |
| Maine ..... | 17 | 0. | 20 | 0. | 4 | 0. | 24 | 0. | 28 | 1 |
| Maryland ..... | 317 | 27.4 | 570 | 31.1 | 26 | 15.4 | 596 | 31.1 | 4 | 22 |
| Massachusetts. . | 132 | 8.3 | 222 | 9.9 | 19 | 26.3 | 241 | 10.8 | 8 | 7 |
| Michigan ..... | 70 | 0. | 149 | 6.0 | 35 | 40.0 | 184 | 14.8 | 11 | 11 |
| Minnesota ..... | 94 | 14.9 | 151 | 18.5 | 10 | 0. | 161 | 17.3 | 15 | 12 |
| Missouri ..... | 285 | 12.3 | 390 | 15.4 | 85 | 48.2 | 475 | 20.6 | 5 | 16 |
| Nebraska ..... | 15 | 46.6 | 31 | 28.6 | 5 | 0. | 36 | 27.8 | 23 | 19 |
| New Hampshire. | 13 | 0. | 15 | 0. | 4 | 25.0 | 19 | 5.3 | 29 | 2 |
| New York..... | 411 | 2.4 | 620 | 3.2 | 63 | 28.6 | 683 | 5.7 | 3 | 3 |
| North Carolina. | 54 | 27.7 | 84 | 39.2 | 1 | 100.0 | 85 | 40.0 | 19 | 25 |
| Ohio ..... | 231 | 6.1 | 285 | 10.1 | 66 | 31.8 | 351 | 14.8 | 7 | 11 |
| Oregon ..... | 39 | 41.0 | 47 | 53.1 | 2 | 0. | 49 | 51.0 | 21 | 27 |
| Pennsylvania .. | 481 | 5.8 | 675 | 7.1 | 65 | 24.6 | 740 | 8.6 | 2 | 4 |
| South Carolina. | 19 | 0. | 32 | 21.9 | 2 | 0. | 34 | 20.6 | 24 | 16 |
| Tennessee ..... | 209 | 27.8 | 372 | 36.8 | 41 | 41.1 | 413 | 37.0 | 6 | 24 |
| Texas ..... | 25 | 20.0 | 33 | 30.3 | 1 | 0. | 34 | 30.3 | 24 | 20 |
| Vermont ..... | 39 | 2.5 | 67 | 8.9 | 21 | 28.6 | 88 | 13.6 | 18 | 10 |
| Virginia ..... | 105 | 5.7 | 160 | 13.0 | 14 | 14.3 | 174 | 13.2 | 12 | 9 |
| Wisconsin ..... | 33 | 9.0 | 36 | 11.1 | 2 | 50.0 | 38 | 13.2 | 22 | 9 |
| All states.... | 4,016 | 11.4 | 6,001 | 16.0 | 751 | 34.0 | 6,752 | 20.6 | .. | .. |

* See large tables inserted opposite page 611.

TABLE F—COLLEGES HAVING 50 OR MORE EXAMINED.

TABLE SHOWS TOTAL NUMBER EXAMINED, PERCENTAGE OF FAILURES AND NUMBER OF STATES IN WHICH EACH COLLEGE HAD REPRESENTATIVES

| NAME OF COLLEGE. | Graduates all Years. | | | Graduates 1905. | | | Graduates 1900-1905. | | | Grad. 1899 and Prev | | | Margin No. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. Examined. | Per cent. Failed. | No. States. | No. Examined. | Per Cent. Failed. | No. States. | No. Examined. | Per Cent. Failed. | No. States. | No. Examined. | Per Cent. Failed. | No. States. | |
| College of Physicians and Surgeons, Chicago. | 302 | 8.6 | 26 | 205 | 2.9 | 17 | 278 | 6.1 | 25 | 24 | 39.0 | 13 | 26 |
| Rush Medical College | 254 | 8.3 | 30 | 88 | 2.3 | 14 | 205 | 4.9 | 28 | 49 | 23.2 | 17 | 33 |
| Jefferson Medical College | 231 | 5.6 | 35 | 162 | 2.3 | 22 | 209 | 3.8 | 34 | 22 | 22.7 | 11 | 128 |
| Coll. of Physicians and Surgeons, New York. | 229 | 3.9 | 26 | 118 | 3.4 | 9 | 210 | 4.3 | 23 | 19 | 0. | 10 | 101 |
| Northwestern University Medical School.... | 191 | 5.1 | 27 | 135 | 0.7 | 16 | 175 | 1.7 | 22 | 16 | 46.6 | 11 | 32 |
| University of Pennsylvania | 181 | 5.5 | 27 | 89 | 2.2 | 10 | 157 | 3.1 | 23 | 25 | 20.0 | 14 | 126 |
| University of Michigan (R) | 136 | 11.8 | 24 | 55 | 0. | 10 | 111 | 3.6 | 21 | 25 | 48.0 | 8 | 77 |
| Medico-Chirurgical College of Philadelphia.. | 128 | 19.5 | 10 | 95 | 15.7 | 11 | 121 | 18.2 | 10 | 7 | 43.0 | 4 | 130 |
| Baltimore Medical College | 127 | 27.6 | 26 | 71 | 28.1 | 18 | 120 | 29.1 | 25 | 7 | 0. | 6 | 61 |
| University of Minnesota | 123 | 11.4 | 13 | 82 | 14.6 | 5 | 115 | 12.1 | 9 | 8 | 0. | 6 | 80 |
| University of Maryland | 117 | 26.5 | 17 | 72 | 19.4 | 10 | 116 | 26.7 | 16 | 1 | 0. | 1 | 66 |
| Harvard University Medical School | 116 | 2.6 | 18 | 54 | 0. | 8 | 101 | 0. | 14 | 15 | 20.0 | 11 | 71 |
| Maryland Medical College | 115 | 53.0 | 18 | 65 | 55.3 | 12 | 115 | 53.0 | 18 | .. | ... | .. | 68 |
| Medical College of Indiana | 100 | 17.0 | 6 | 88 | 13.6 | 1 | 98 | 17.3 | 6 | 2 | 0. | 1 | 38 |
| College of Physicians & Surgeons, Baltimore. | 97 | 16.5 | 25 | 58 | 15.5 | 14 | 92 | 17.3 | 22 | 5 | 0. | 5 | 63 |
| Western Pennsylvania Medical College | 94 | 13.8 | 8 | 66 | 3.0 | 3 | 88 | 11.3 | 6 | 6 | 50.0 | 5 | 131 |
| Marion-Sims Beaumont Medical College... | 93 | 15.0 | 17 | 64 | 7.8 | 11 | 85 | 11.8 | 17 | 8 | 50.0 | 4 | 90 |
| State University of Iowa | 91 | 8.9 | 14 | 69 | 0. | 1 | 75 | 1.3 | 7 | 16 | 43.7 | 10 | 47 |
| Tulane University | 91 | 11.1 | 15 | 74 | 5.4 | 10 | 88 | 10.2 | 13 | 3 | 33.3 | 3 | 59 |
| Keokuk Med. Coll. of Phys. & Surg | 90 | 28.9 | 15 | 58 | 13.7 | 8 | 70 | 21.4 | 12 | 20 | 55.0 | 11 | 44 |
| Long Island College Hospital | 90 | 11.1 | 8 | 66 | 6.0 | 4 | 83 | 7.2 | 5 | 7 | 57.1 | 6 | 104 |
| University of Vermont | 88 | 13.6 | 14 | 39 | 2.5 | 5 | 67 | 8.9 | 12 | 21 | 28.6 | 8 | 151 |
| Memphis Hospital Medical College | 86 | 36.0 | 9 | 37 | 16.2 | 7 | 77 | 29.9 | 8 | 9 | 66.7 | 7 | 139 |
| University & Bellevue Hospital Med. Coll.... | 84 | 13.2 | 20 | 30 | 0. | 5 | 66 | 1.7 | 12 | 23 | 43.4 | 13 | 107 |
| Hahnemann Med. Coll. & Hospital Chicago. | 79 | 16.7 | 18 | 51 | 5.8 | 8 | 65 | 12.5 | 15 | 14 | 35.7 | 8 | 27 |
| Cornell University | 79 | 0. | 10 | 58 | 0. | 7 | 79 | 0. | 10 | .. | ... | .. | 102 |
| Tufts College Medical School | 76 | 9.2 | 9 | 58 | 10.3 | 6 | 73 | 8.2 | 8 | 3 | 33.3 | 2 | 72 |
| Barnes Medical College | 73 | 34.2 | 23 | 41 | 26.8 | 13 | 59 | 27.1 | 17 | 14 | 64.3 | 9 | 89 |
| George Washington University | 70 | 17.6 | 14 | 45 | 13.6 | 10 | 66 | 16.9 | 14 | 4 | 25.0 | 2 | 16 |
| University of Virginia | 65 | 9.1 | 15 | 28 | 0. | 7 | 54 | 7.4 | 12 | 11 | 18.2 | 8 | 154 |
| Johns Hopkins University | 64 | 0. | 25 | 24 | 0. | 10 | 61 | 0. | 24 | 3 | 0. | 3 | 64 |
| University Medical College, Kansas City... | 62 | 13.1 | 14 | 37 | 2.7 | 4 | 51 | 6.0 | 10 | 11 | 45.4 | 9 | 83 |
| Washington University, St. Louis | 61 | 13.1 | 20 | 34 | 0. | 9 | 51 | 9.8 | 16 | 10 | 30.0 | 9 | 135 |
| University of Nashville | 60 | 18.3 | 14 | 42 | 9.5 | 10 | 56 | 19.6 | 12 | 4 | 0. | 4 | 135 |
| University of the South | 60 | 45.8 | 16 | 10 | 30.0 | 6 | 57 | 47.3 | 15 | 3 | 0. | 3 | 140 |
| Illinois Medical College | 59 | 28.8 | 22 | 31 | 19.3 | 9 | 54 | 24.1 | 17 | 5 | 80.0 | 4 | 30 |
| Baltimore University | 59 | 66.1 | 15 | 13 | 61.5 | 5 | 52 | 69.2 | 13 | 7 | 42.8 | 5 | 62 |
| University of Buffalo | 59 | 1.7 | 9 | 31 | 0. | 1 | 54 | 0. | 6 | 5 | 20.0 | 4 | 109 |
| Kentucky School of Medicine | 58 | 41.4 | 24 | 16 | 18.7 | 8 | 35 | 38.2 | 16 | 23 | 47.8 | 16 | 52 |
| Ohio Medical University | 58 | 15.5 | 11 | 40 | 10.0 | 5 | 51 | 15.7 | 10 | 7 | 14.3 | 4 | 120 |
| Meharry Medical College | 58 | 43.1 | 16 | 38 | 42.1 | 11 | 55 | 43.6 | 16 | 3 | 33.3 | 2 | 138 |
| Eclectic Medical Institute | 56 | 21.4 | 14 | 34 | 14.7 | 8 | 47 | 25.5 | 11 | 9 | 0. | 7 | 116 |
| University College of Medicine, Virginia.... | 57 | 8.7 | 4 | 41 | 2.4 | 3 | 57 | 8.7 | 4 | .. | ... | .. | 153 |
| Albany Medical College | 56 | 0. | 7 | 45 | 0. | 4 | 53 | 0. | 5 | 3 | 0. | 2 | 100 |
| Cooper Medical College | 54 | 16.7 | 7 | 37 | 10.8 | 3 | 48 | 14.6 | 4 | 6 | 33.3 | 5 | 4 |
| Medical College of Ohio | 54 | 14.8 | 12 | 36 | 11.1 | 5 | 41 | 7.3 | 8 | 13 | 38.4 | 8 | 117 |
| Hahnemann Med. Coll. & Hospital, Phila... | 53 | 3.7 | 10 | 38 | 0. | 8 | 51 | 1.9 | 9 | 2 | 50.0 | 2 | 127 |
| Medical College of Virginia | 53 | 23.1 | 9 | 36 | 13.8 | 5 | 50 | 24.0 | 7 | 3 | 0. | 3 | 152 |
| Denver & Gross College of Medicine | 52 | 11.5 | 12 | 32 | 3.1 | 5 | 48 | 10.4 | 11 | 4 | 25.0 | 2 | 12 |
| Woman's Medical College of Pennsylvania.. | 52 | 3.8 | 17 | 30 | 6.7 | 10 | 48 | 4.2 | 16 | 4 | 0. | 4 | 129 |
| American Coll. of Med. and Surgery | 51 | 17.6 | 9 | 42 | 11.9 | 5 | 50 | 14.0 | 8 | 1 | 100.0 | 1 | 35 |
| | 4,893 | 15.1 | 16 | 2,908 | 9.2 | 8 | 4,384 | 13.1 | 14 | 509 | 32.2 | 6 | |

Table B gives the results in regard to the graduates of 1905. Table C gives results in regard to graduates of 1900 to 1905, inclusive (recent graduates), and Table D gives the results in regard to old practitioners, or those who graduated in 1899 or previous years.

Of the 7,620 candidates, it will be seen that 4,066 (54.3 per cent.) were graduates of 1905; 6,280 (82.4 per cent.) were recent graduates—graduates of 1900 to 1905, inclusive—and 890 (11.7 per cent.) were old practitioners, that is, those who graduated previous to 1900. There were also examined 450 undergraduates and a number of graduates for which no year of graduation was obtainable, this group comprising about 5.9 per cent. of all applicants.

A study of the failures is interesting. The graduates of 1905 had 4,066 applicants, with 11.6 per cent. of failures; graduates of 1900-1905, inclusive (recent graduates) had 6,280 applicants, with 16.1 per cent. of failures; graduates of 1899 and previous (old practitioners) had 890 applicants, with 34 per cent. of failures. The largest percentage of failures, however, as would naturally be expected, was obtained by the 450 undergraduates, etc., which was 54.9.

The fourteen colleges having 100 or more candidates (Table F), while furnishing 31 per cent. of all applicants, had only 297, or 19 per cent., of all failures. The fifty-one colleges having fifty or more candidates, although having 64 per cent. of all applicants, had only 739, or 47.8 per cent., of all failures. Thus, the reports favor the larger colleges from the standpoint of excellence.

Table E is based on the four preceding tables and shows the results obtained by graduates of all colleges of each state. This is of interest, since by it we can see whether the colleges in each particular state as a group are progressing. It is encouraging to note that in almost all states the percentage of failures is smaller for the 1900-1905 group of graduates than for 1899 and previous groups and still smaller for the 1905 graduates. This table also shows which states send out the most

TABLE G.—COMPARISON OF RESULTS IN HOME STATES AND ELSEWHERE. BASED ON TABLE C.

| College. | Total Examined. | Results in Home State. | | | Results in Other States. | | |
|---|---|---|---|---|---|---|---|
| | | P. | F. | %F. | P. | F. | %F. |
| ALABAMA.....+ 23.4 | *49* | *41* | *2* | *4.9* | *4* | *2* | *33.3* |
| Birmingham Medical College.... | 8 | 7 | 0 | 0 | 1 | 0 | 0 |
| Medical College of Alabama..... | 41 | 34 | 2 | 5.3 | 3 | 2 | 40.0 |
| ARKANSAS..... | *1* | .. | .. | .. | *1* | *0* | *0* |
| University of Arkansas..... | 1 | .. | .. | .. | 1 | 0 | 0 |
| CALIFORNIA..... — *25.6* | *168* | *82* | *42* | *34.6* | *40* | *4* | *9.0* |
| Cooper Medical College ..... | 48 | 30 | 7 | 18.9 | 11 | 0 | 0 |
| University of California..... | 23 | 17 | 2 | 10.5 | 4 | 0 | 0 |
| California Medical College ..... | 12 | 2 | 3 | 60.0 | 4 | 3 | 42.8 |
| Hahnemann Medical College .... | 15 | 10 | 4 | 28.6 | 1 | 0 | 0 |
| Coll. of P. and S., San Fran... | 39 | 10 | 13 | 56.5 | 15 | 1 | 6.2 |
| Oakland Coll. of M. and S.... | .. | .. | .. | .. | .. | .. | .. |
| University of South. California | 29 | 11 | 13 | 54.2 | 5 | 0 | 0 |
| C. of P. and S. Los Angeles.... | 2 | 2 | 0 | 0 | .. | .. | .. |
| COLORADO..... .....+ 4.9 | *69* | *37* | *2* | *5.1* | *27* | *3* | *10.0* |
| Denver and Gross ..... | 48 | 28 | 2 | 6.7 | 15 | 3 | 16.7 |
| Denver Homeo. Med. College.... | 6 | 4 | 0 | 0 | 2 | 0 | 0 |
| University of Colorado..... | 15 | 5 | 0 | 0 | 10 | 0 | 0 |
| CONNECTICUT..... — | *29* | *20* | *0* | *0* | *9* | *0* | *0* |
| Yale Medical College ..... | 29 | 20 | 0 | 0 | 9 | 0 | 0 |
| DISTRICT OF COLUMBIA..... — *5.3* | *130* | *52* | *16* | *23.5* | *51* | *11* | *17.7* |
| George Washington University.. | 66 | 36 | 9 | 20.0 | 19 | 2 | 9.5 |
| Georgetown University ..... | 30 | 9 | 3 | 25.0 | 13 | 5 | 27.8 |
| Howard University ..... | 34 | 7 | 4 | 36.4 | 19 | 4 | 17.4 |
| GEORGIA*..... — | *18* | .. | .. | .. | *12* | *6* | *33.3* |
| College of P. and S., Atlanta... | 12 | .. | .. | .. | 9 | 3 | 25.0 |
| Georgia Eclectic Medical College | 3 | .. | .. | .. | 0 | 3 | 100.0 |
| University of Georgia..... | 3 | .. | .. | .. | 3 | 0 | 0 |
| ILLINOIS..... + *12.8* | *1,011* | *553* | *16* | *2.8* | *373* | *69* | *15.6* |
| American Medical Miss. College. | 20 | 3 | 0 | 0 | 14 | 3 | 17.6 |
| Bennett Medical College ..... | 30 | 24 | 0 | 0 | 3 | 3 | 50.0 |
| Chicago Homeo. Med. Coll..... | 10 | .. | .. | .. | 6 | 4 | 40.0 |
| College of Med. and Surgery.... | 13 | 6 | 4 | 40.0 | 1 | 2 | 66.7 |
| College of P. and S., Chicago.. | 278 | 162 | 0 | 0 | 99 | 17 | 14.6 |
| Hahnemann Med. Coll., Chicago. | 65 | 42 | 0 | 0 | 15 | 8 | 34.8 |
| Harvey Medical College..... | 18 | 15 | 1 | 6.2 | 1 | 1 | 50.0 |
| Hering Medical College ..... | 21 | 12 | 1 | 7.7 | 7 | 1 | 12.5 |
| Illinois Medical College ..... | 53 | 20 | 2 | 9.1 | 21 | 10 | 32.2 |
| Jenner Medical College..... | 22 | 13 | 5 | 27.8 | 3 | 1 | 25.0 |
| Northwestern University ..... | 175 | 92 | 0 | 0 | 80 | 3 | 3.6 |
| Rush Medical College..... | 205 | 85 | 0 | 0 | 110 | 10 | 8.3 |
| National Medical University ... | 22 | 15 | 0 | 0 | 6 | 1 | 14.3 |
| American Coll. of M. and S..... | 50 | 36 | 3 | 7.7 | 7 | 4 | 33.3 |
| Dearborn Medical College..... | 29 | 28 | 0 | 0 | 0 | 1 | 100.0 |
| INDIANA..... + *11.9* | *156* | *116* | *27* | *18.9* | *9* | *4* | *30.8* |
| Cent. College of P. and S..... | 27 | 21 | 4 | 16.0 | 1 | 1 | 50.0 |
| Medical College of Ind..... | 98 | 76 | 15 | 16.5 | 5 | 2 | 25.6 |
| Physio Med. of Ind..... | 7 | 4 | 3 | 42.8 | .. | .. | .. |
| Eclectic Medical College of Ind.. | 6 | 3 | 1 | 25.0 | 1 | 1 | 50.0 |
| Ft. Wayne Coll. of Med..... | 14 | 9 | 4 | 30.8 | 1 | 0 | 0 |
| Indiana University ..... | 4 | 3 | 0 | 0 | 1 | 0 | 0 |
| IOWA..... + *29.7* | *175* | *139* | *7* | *4.8* | *19* | *10* | *34.5* |
| Drake University ..... | 14 | 13 | 0 | 0 | 0 | 1 | 100.0 |
| Keokuk Med. Coll. of P. and S.. | 70 | 45 | 6 | 10.9 | 10 | 9 | 47.4 |
| Sioux City Coll. of Medicine.... | 15 | 13 | 0 | 0 | 2 | 2 | 0 |
| University of Iowa (H)..... | 1 | .. | .. | .. | 1 | 0 | 0 |
| University of Iowa (R)..... | 75 | 68 | 1 | 1.4 | 6 | 0 | 0 |
| KANSAS..... .....+ *12.5* | *25* | *17* | *0* | *0* | *7* | *1* | *12.5* |
| Coll. of P. and S., Kansas City.. | 4 | 2 | 0 | 0 | 2 | 0 | 0 |
| Kansas Medical College ..... | 21 | 15 | 0 | 0 | 5 | 1 | 16.7 |
| University of Kansas ..... | .. | .. | .. | .. | .. | .. | .. |
| KENTUCKY†..... — | *175* | *5* | *0* | *0* | *94* | *76* | *44.7* |
| Hospital Coll. of Medicine..... | 40 | 3 | 0 | 0 | 18 | 19 | 54.3 |
| Kentucky School of Medicine... | 35 | 1 | 0 | 0 | 21 | 13 | 38.2 |
| Louisville Medical College ..... | 26 | .. | .. | .. | 14 | 12 | 46.1 |
| Louisville National Medical Coll. | 1 | .. | .. | .. | 1 | 0 | 0 |
| Southern Homeo. Med. Coll.... | 3 | .. | .. | .. | 1 | 2 | 66.7 |
| University of Louisville ..... | 35 | 1 | 0 | 0 | 21 | 13 | 38.2 |
| Kentucky University ..... | 35 | .. | .. | .. | 18 | 17 | 48.6 |
| LOUISIANA..... + *23.5* | *100* | *48* | *4* | *7.7* | *33* | *15* | *31.2* |
| Flint Medical College ..... | 12 | 1 | 4 | 80.0 | 1 | 6 | 85.7 |
| Tulane University ..... | 88 | 47 | 0 | 0 | 32 | 9 | 21.9 |
| MAINE..... — | *20* | *18* | *0* | *0* | *2* | *0* | *0* |
| Medical School of Maine ..... | 20 | 18 | 0 | 0 | 2 | 0 | 0 |
| MARYLAND..... — *2.3* | *576* | *105* | *62* | *31.1* | *291* | *118* | *28.8* |
| Baltimore Medical College..... | 120 | 12 | 7 | 31.6 | 73 | 28 | 27.7 |
| Baltimore University ..... | 52 | 1 | 4 | 80.0 | 15 | 32 | 68.1 |
| College of P. and S., Baltimore. | 92 | 13 | 2 | 13.3 | 63 | 14 | 18.2 |
| Johns Hopkins ..... | 61 | 13 | 0 | 0 | 48 | 0 | 0 |
| So. Homeopathic Med. Coll.... | 14 | 8 | 0 | 0 | 5 | 1 | 16.7 |
| University of Maryland..... | 116 | 40 | 16 | 28.6 | 45 | 15 | 25.0 |
| Woman's Medical College ..... | 6 | 2 | 0 | 0 | 4 | 0 | 0 |
| Maryland Medical College ..... | 115 | 16 | 33 | 67.3 | 38 | 28 | 42.4 |
| MASSACHUSETTS..... + *0.4* | *222* | *127* | *13* | *9.3* | *74* | *8* | *9.7* |
| Boston University ..... | 17 | 5 | 2 | 28.6 | 10 | 0 | 0 |
| College of P. and S., Boston.... | 31 | 4 | 7 | 63.6 | 14 | 6 | 30.0 |
| Harvard University ..... | 101 | 63 | 0 | 0 | 38 | 0 | 0 |
| Tufts Medical College..... | 73 | 55 | 4 | 6.8 | 12 | 2 | 14.3 |
| MICHIGAN..... — *2.8* | *149* | *61* | *5* | *7.6* | *79* | *4* | *4.8* |
| Detroit College of Medicine..... | 21 | 6 | 1 | 14.3 | 12 | 2 | 14.3 |
| Detroit Homeo. Med. College.... | .. | .. | .. | .. | .. | .. | .. |
| Michigan Coll. of Med. and Sur. | 2 | .. | .. | .. | 1 | 1 | 50.0 |
| Grand Rapids Med. Coll..... | 2 | .. | .. | .. | 1 | 1 | 50.0 |
| University of Michigan (R).... | 111 | 51 | 4 | 7.2 | 56 | 0 | 0 |
| University of Michigan (H)..... | 13 | 4 | 0 | 0 | 9 | 0 | 0 |
| MINNESOTA..... — *12.0* | *151* | *74* | *22* | *22.9* | *49* | *6* | *10.9* |
| University of Minnesota (H).... | 1 | .. | .. | .. | 1 | 0 | 0 |
| University of Minn. (R)..... | 115 | 64 | 12 | 15.8 | 37 | 2 | 5.1 |
| Hamline University ..... | 35 | 10 | 10 | 50.0 | 11 | 4 | 26.7 |
| MISSOURI‡..... — | *393* | .. | .. | .. | *333* | *60* | *15.2* |
| Medico-Chirurgical, Missouri ... | 121 | .. | .. | .. | 10 | 2 | 16.7 |
| University Md. C., Kansas City. | 50 | .. | .. | .. | 47 | 3 | 6.0 |
| Kansas City Hahne. Med. Coll... | 4 | .. | .. | .. | 3 | 1 | 25.0 |
| Kansas City Med. Coll. ..... | 36 | .. | .. | .. | 33 | 3 | 8.3 |
| Eclectic Medical University ..... | 3 | .. | .. | .. | 2 | 1 | 33.3 |
| Central Medical College..... | 17 | .. | .. | .. | 12 | 5 | 29.4 |
| Ensworth Medical College..... | 16 | .. | .. | .. | 9 | 7 | 43.7 |
| Barnes Medical College ..... | 59 | .. | .. | .. | 43 | 16 | 27.1 |
| St. Louis University ..... | 85 | .. | .. | .. | 75 | 10 | 11.8 |
| Coll. of P. and S., St. Louis.... | 42 | .. | .. | .. | 36 | 6 | 11.6 |
| American Medical College ..... | 7 | .. | .. | .. | 5 | 2 | 28.6 |
| Homeo. College of Missouri..... | 5 | .. | .. | .. | 5 | 0 | 0 |
| Washington University ..... | 50 | .. | .. | .. | 46 | 4 | 8.0 |
| University of Missouri ..... | 7 | .. | .. | .. | 7 | 0 | 0 |
| NEBRASKA..... — *66.6* | *36* | *1* | *5* | *83.3* | *25* | *5* | *16.7* |
| University of Nebraska..... | 15 | 0 | 2 | 100.0 | 10 | 3 | 23.1 |
| Creighton Medical College..... | 13 | 0 | 1 | 100.0 | 11 | 1 | 8.3 |
| Lincoln Medical College..... | 8 | 1 | 2 | 66.7 | 4 | 1 | 20.0 |
| NEW HAMPSHIRE..... — | *15* | *4* | *0* | *0* | *11* | *0* | *0* |
| Dartmouth Medical College .... | 15 | 4 | 0 | 0 | 11 | 0 | 0 |
| NEW YORK..... + *8.1* | *622* | *512* | *10* | *1.9* | *90* | *10* | *10.0* |
| Albany Medical College..... | 53 | 46 | 0 | 0 | 7 | 0 | 0 |
| College of P. and S., New York. | 210 | 159 | 6 | 3.6 | 42 | 3 | 6.7 |
| Cornell University ..... | 79 | 68 | 0 | 0 | 11 | 0 | 0 |
| Eclectic Med. Coll., New York.. | 16 | 13 | 0 | 0 | 0 | 3 | 100.0 |
| Long Island College Hospital... | 83 | 72 | 4 | 5.3 | 5 | 2 | 28.6 |
| New York Homeo. Med. Coll.... | 24 | 21 | 0 | 0 | 2 | 1 | 33.3 |
| N. Y. Woman's Medical Coll.... | 10 | 8 | 0 | 0 | 2 | 0 | 0 |
| University and Bellevue M. C... | 61 | 46 | 0 | 0 | 14 | 1 | 6.7 |
| Syracuse University ..... | 32 | 30 | 0 | 0 | 2 | 0 | 0 |
| University of Buffalo..... | 54 | 49 | 0 | 0 | 5 | 0 | 0 |
| NORTH CAROLINA..... + *21.5* | *84* | *33* | *14* | *29.8* | *18* | *19* | *51.3* |
| Leonard Medical College..... | 45 | 5 | 6 | 54.5 | 16 | 18 | 52.9 |
| North Carolina Medical College. | 30 | 20 | 7 | 25.9 | 2 | 1 | 33.3 |
| University of North Carolina.. | 9 | 8 | 1 | 11.1 | .. | .. | .. |
| OHIO..... .....+ *18.1* | *286* | *170* | *5* | *2.8* | *87* | *23* | *20.9* |
| Western Reserve University.... | 25 | 20 | 0 | 0 | 5 | 0 | 0 |
| Cleveland Coll. of P. and S..... | 18 | 16 | 0 | 0 | 1 | 1 | 50.0 |
| Cleveland Homeo. Med. Coll.... | 27 | 12 | 0 | 0 | 15 | 0 | 0 |
| Eclectic Medical Institute..... | 48 | 11 | 1 | 8.3 | 25 | 11 | 30.5 |
| Medical College of Ohio..... | 41 | 28 | 0 | 0 | 10 | 3 | 23.0 |
| Pulte Medical College..... | 8 | 3 | 0 | 0 | 4 | 1 | 20.0 |
| Miami Medical College ..... | 24 | 20 | 0 | 0 | 4 | 0 | 0 |
| Ohio Medical University..... | 51 | 32 | 2 | 5.9 | 11 | 6 | 35.3 |
| Starling Medical College..... | 36 | 28 | 1 | 3.4 | 5 | 2 | 28.6 |
| Toledo Medical College..... | 8 | 0 | 1 | 100.0 | 7 | 0 | 0 |
| OREGON..... — *55.5* | *47* | *20* | *25* | *55.5* | *2* | *0* | *0* |
| University of Oregon ..... | 36 | 15 | 19 | 5.6 | 2 | 0 | 0 |
| Willamette University ..... | 11 | 5 | 6 | 54.5 | .. | .. | .. |
| PENNSYLVANIA..... — *4.2* | *676* | *407* | *38* | *8.5* | *221* | *10* | *4.3* |
| Temple College ..... | 2 | 1 | 0 | 0 | 1 | 0 | 0 |
| University of Pennsylvania..... | 157 | 86 | 2 | 2.3 | 66 | 3 | 4.3 |
| Hahn. M. C. of Philadelphia ... | 51 | 33 | 0 | 0 | 17 | 1 | 5.5 |
| Jefferson Medical College ..... | 209 | 117 | 5 | 4.1 | 84 | 3 | 3.4 |
| Woman's M. Coll. Pennsylvania | 48 | 25 | 2 | 7.4 | 21 | 0 | 0 |
| Medico-Chirurgical Coll., Pa.... | 121 | 77 | 19 | 19.8 | 22 | 3 | 12.0 |
| Western Pennsylvania M. C.... | 88 | 68 | 10 | 12.8 | 10 | 0 | 0 |
| SOUTH CAROLINA..... — *26.9* | *32* | *19* | *7* | *26.9* | *6* | *0* | *0* |
| Med. Coll. of South Carolina... | 32 | 19 | 7 | 26.9 | 6 | 0 | 0 |
| TENNESSEE..... .....+ *5.7* | *372* | *55* | *27* | *32.9* | *178* | *112* | *38.6* |
| Tennessee Medical College..... | 17 | 11 | 1 | 8.3 | 3 | 2 | 40.0 |
| Knoxville Medical College..... | 7 | 0 | 1 | 100.0 | 1 | 5 | 83.3 |
| University of Nashville ..... | 56 | 13 | 3 | 18.8 | 32 | 8 | 20.0 |
| Vanderbilt University ..... | 25 | 6 | 0 | 0 | 17 | 2 | 10.1 |
| University of Tennessee..... | 34 | 7 | 7 | 50.0 | 13 | 7 | 35.0 |
| Meharry Medical College ..... | 55 | 3 | 6 | 66.7 | 24 | 22 | 47.8 |
| Memphis Medical College ..... | 77 | 7 | 2 | 22.2 | 45 | 23 | 33.8 |
| University of South ..... | 57 | 1 | 0 | 0 | 29 | 27 | 48.2 |
| Chattanooga National M. C..... | .. | .. | .. | .. | .. | .. | .. |
| Chattanooga Medical College ... | 42 | 7 | 5 | 41.7 | 14 | 16 | 53.3 |
| University of Tennessee..... | 2 | 0 | 2 | 100.0 | .. | .. | .. |
| VERMONT..... .....+ *15.8* | *67* | *29* | *0* | *0* | *32* | *6* | *15.8* |
| University of Vermont..... | 67 | 29 | 0 | 0 | 32 | 6 | 15.8 |
| VIRGINIA..... — *5.7* | *161* | *91* | *15* | *14.9* | *49* | *5* | *9.2* |
| Medical College of Virginia..... | 50 | 28 | 9 | 24.3 | 10 | 3 | 23.1 |
| University College of Medicine.. | 57 | 38 | 3 | 7.3 | 14 | 2 | 12.5 |
| University of Virginia ..... | 54 | 25 | 4 | 13.8 | 25 | 0 | 0 |
| TEXAS..... .....+ *10.3* | *33* | *12* | *4* | *25.0* | *11* | *6* | *35.3* |
| Fort Worth University ..... | 4 | 2 | 0 | 0 | 1 | 1 | 50.0 |
| University of Texas ..... | 11 | 10 | 0 | 0 | 1 | 0 | 0 |
| Baylor University ..... | 7 | 0 | 3 | 100.0 | 4 | 0 | 0 |
| Dallas Medical College..... | 3 | .. | .. | .. | 1 | 2 | 66.7 |
| Gate City Medical College..... | 5 | .. | .. | .. | 2 | 3 | 60.0 |
| Southwestern University..... | 2 | 0 | 1 | 100.0 | 1 | 0 | 0 |
| Coll. of P. and S., Dallas ..... | 1 | .. | .. | .. | 1 | 0 | 0 |
| WISCONSIN..... .....+ *33.6* | *36* | *29* | *2* | *6.4* | *3* | *2* | *40.0* |
| Milwaukee Medical College..... | 20 | 18 | 0 | 0 | 0 | 2 | 100.0 |
| Coll. of P. and S., Wisconsin.... | 16 | 11 | 2 | 14.6 | 3 | 0 | 0 |
| + 11.3 | 2,467 | 1,382 | 153 | 10.0 | 733 | 199 | 21.3 |

Figures in italics show totals by states.

* Examination reports not received.

† Most graduates of home colleges registered without examination.

‡ No record kept of year of graduation, so could not differentiate between graduates and undergraduates.

TABLE H. REJECTIONS BY LICENSING BOARDS.

Arranged in order of the percentage of rejections by each State Examining Board. Based on Table C.

| State. | Colleges of all States. | | | | Colleges of Home States. | | | | Colleges of Other States. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Number of Applicants. | Number Registered. | Number Rejected. | Percentage Rejected. | Total Applicants. | Number Registered. | Number Rejected. | Percentage Rejected. | Total Applicants. | Number Registered. | Number Rejected. | Percentage Rejected. |
| Mississippi | 135 | 71 | 64 | 47.4 | .... | .... | ... | ... | 137 | 71 | 64 | 47.4 |
| Oregon | 96 | 53 | 43 | 44.8 | 45 | 20 | 25 | 55.5 | 51 | 22 | 18 | 35.3 |
| Nebraska | 26 | 16 | 10 | 38.5 | 6 | 1 | 5 | 83.3 | 20 | 15 | 5 | 25.0 |
| California | 202 | 125 | 77 | 38.1 | 124 | 82 | 42 | 33.9 | 78 | 43 | 35 | 44.9 |
| West Virginia | 137 | 85 | 52 | 37.9 | .... | .... | ... | ... | 137 | 85 | 52 | 37.9 |
| New York | 688 | 662 | 26 | 37.8 | 522 | 512 | 10 | 1.9 | 166 | 150 | 16 | 9.6 |
| Maryland | 187 | 118 | 69 | 36.9 | 167 | 105 | 62 | 37.1 | 20 | 13 | 7 | 35.0 |
| South Carolina | 65 | 44 | 21 | 32.3 | 26 | 19 | 7 | 26.9 | 39 | 25 | 14 | 35.9 |
| Texas | 68 | 47 | 21 | 30.9 | 16 | 12 | 4 | 25.0 | 52 | 35 | 17 | 32.7 |
| Tennessee | 102 | 71 | 31 | 30.4 | 82 | 55 | 27 | 32.9 | 20 | 16 | 4 | 20.0 |
| Montana | 35 | 25 | 10 | 28.6 | .... | .... | ... | ... | 35 | 25 | 10 | 28.6 |
| Rhode Island | 58 | 42 | 16 | 27.6 | .... | .... | ... | ... | 58 | 42 | 16 | 27.6 |
| Delaware | 26 | 19 | 7 | 26.9 | .... | .... | ... | ... | 26 | 19 | 7 | 26.9 |
| Virginia | 181 | 133 | 48 | 26.5 | 107 | 91 | 16 | 15.0 | 74 | 42 | 32 | 43.2 |
| New Hampshire | 19 | 14 | 5 | 26.3 | 4 | 4 | ... | ... | 15 | 10 | 5 | 33.3 |
| Minnesota | 147 | 112 | 35 | 23.8 | 96 | 74 | 22 | 22.9 | 51 | 38 | 13 | 25.5 |
| Dist. of Columbia | 85 | 65 | 20 | 23.5 | 68 | 52 | 16 | 23.5 | 17 | 13 | 4 | 23.5 |
| New Jersey | 64 | 50 | 14 | 21.9 | .... | .... | ... | ... | 64 | 50 | 14 | 21.9 |
| Indiana | 284 | 230 | 54 | 19.0 | 143 | 116 | 27 | 18.9 | 141 | 114 | 27 | 19.1 |
| Connecticut | 75 | 61 | 14 | 18.7 | 20 | 20 | ... | ... | 55 | 41 | 14 | 25.4 |
| Oklahoma | 48 | 39 | 9 | 18.7 | .... | .... | ... | ... | 48 | 39 | 9 | 18.7 |
| Massachusetts | 302 | 252 | 50 | 16.5 | 140 | 127 | 13 | 9.3 | 162 | 125 | 37 | 22.8 |
| South Dakota | 37 | 31 | 6 | 16.2 | .... | .... | ... | ... | 37 | 31 | 6 | 16.2 |
| Idaho | 42 | 36 | 6 | 14.3 | .... | .... | ... | ... | 42 | 36 | 6 | 14.3 |
| Utah | 28 | 24 | 4 | 14.3 | .... | .... | ... | ... | 28 | 14 | 4 | 14.3 |
| Arizona | 30 | 26 | 4 | 13.3 | .... | .... | ... | ... | 30 | 26 | 4 | 13.3 |
| Arkansas | 30 | 26 | 4 | 13.3 | .... | .... | ... | ... | 30 | 26 | 4 | 13.3 |
| Washington | 115 | 100 | 15 | 13.0 | .... | .... | ... | ... | 115 | 100 | 15 | 13.0 |
| Iowa | 227 | 201 | 26 | 11.4 | 146 | 139 | 7 | 4.8 | 81 | 62 | 19 | 23.4 |
| Pennsylvania | 608 | 519 | 89 | 11.3 | 445 | 407 | 38 | 8.5 | 163 | 112 | 51 | 31.3 |
| Kansas | 166 | 149 | 17 | 10.2 | 17 | 17 | ... | ... | 149 | 132 | 17 | 11.4 |
| Alabama | 124 | 112 | 12 | 9.7 | 43 | 41 | 2 | 4.6 | 81 | 71 | 10 | 12.3 |
| Colorado | 193 | 175 | 18 | 9.7 | 43 | 37 | 2 | 5.1 | 154 | 138 | 16 | 10.4 |
| Louisiana | 107 | 97 | 10 | 9.3 | 52 | 48 | 4 | 7.7 | 55 | 49 | 6 | 10.9 |
| Florida | 23 | 21 | 2 | 8.7 | .... | .... | ... | ... | 23 | 21 | 2 | 8.7 |
| North Dakota | 69 | 63 | 6 | 8.7 | .... | .... | ... | ... | 69 | 63 | 6 | 8.7 |
| Kentucky | 35 | 32 | 3 | 8.6 | *5 | 5 | ... | ... | 30 | 27 | 3 | 10.0 |
| Maine | 60 | 57 | 3 | 5.0 | 18 | 18 | ... | ... | 42 | 39 | 3 | 7.1 |
| Michigan | 83 | 79 | 4 | 4.8 | 62 | 61 | 1 | 1.6 | 21 | 18 | 3 | 14.3 |
| Wisconsin | 93 | 89 | 4 | 4.3 | 31 | 29 | 2 | 6.4 | 62 | 60 | 2 | 3.2 |
| Illinois | 766 | 736 | 30 | 3.9 | 569 | 533 | 16 | 2.8 | 197 | 183 | 14 | 7.1 |
| Ohio | 208 | 203 | 5 | 2.4 | 175 | 170 | 5 | 2.9 | 33 | 33 | ... | ... |
| Vermont | 42 | 41 | 1 | 2.4 | 29 | 29 | ... | ... | 13 | 12 | 1 | 7.7 |
| Nevada | 26 | 26 | .... | .... | .... | .... | ... | ... | 26 | 26 | ... | ... |
| Wyoming | 18 | 18 | .... | .... | .... | .... | ... | ... | 18 | 18 | ... | ... |
| Totals | 6,280 | 5,278 | 1,002 | 15.5 | 3,244 | 2,877 | 367 | 11.3 | 3,036 | 2,401 | 635 | 20.9 |

* Registers a considerable number of graduates of home colleges without examination. No reports from Georgia and Missouri.

physicians and, if the results of these examinations may be taken as a guide, the class of physicians. In the last two columns the rank of each state is given; in the first according to the number of applicants, and in the second according to the success of the graduates in passing the examinations.

Table F, also based on the first four tables, allows us to make comparisons among the larger colleges, or the 51 colleges having 50 or more candidates examined during the year 1905. There were 154 colleges in all which had candidates examined by state boards, of which 14 had 100 or more examined and 37 had between 50 and 100 examined. Therefore, 33 per cent. of the colleges had 50 or more candidates, while 103 (67 per cent.) had less than 50 each. There were 70 (45 per cent.) which had less than 25 candidates each. In other words, 2,350, or about 31 per cent. of all the candidates, came from 14, or 9 per cent., of all colleges, while 4,893, or 64 per cent., of all candidates came from 51, or 33 per cent., of the colleges.

In making comparisons, beside the percentage, one must consider also the number examined and the number of state boards before which the college was represented. The above group—Table F—is arranged according to the number examined. As to the representation before state boards: Jefferson leads, its graduates appearing in 35 states. Rush Medical College comes next, its graduates appearing in 30. Northwestern University Medical School and the University of Pennsylvania each had graduates appearing in 27 states. The College of Physicians and Surgeons, Chicago, the College of Physicians and Surgeons, New York, and the Baltimore Medical College each had representatives in 26 states.

Table G is based on the examination of graduates of 1900 to 1905, inclusive, i. e., *"recent graduates."* All graduates who were examined in the state in which the college is located are grouped in one column, while all the graduates of that college who were examined in other states are in another column. This is for the purpose of showing the number of graduates who stay in the state in which the college is located; also to show what is evidently a fact, that, as a rule, the graduates of a certain school have a much better chance of passing the examination in the state in which the school is located than they have elsewhere. This should always be con-

## COLLEGES CLASSIFIED.

The following tables are based upon Table C, therefore on results of the examination of *recent graduates*:

TABLE I.—COLLEGES HAVING LESS THAN 10 PER CENT. OF FAILURES.

| College. | Total Examined. | Number Passed. | Number Failed. | Per cent. Failed. | No. of States. |
|---|---|---|---|---|---|
| ALABAMA. | | | | | |
| Birmingham Medical College | 8 | 8 | 0 | 0 | 2 |
| Medical College of Alabama | 41 | 37 | 4 | 9.7 | 2 |
| CALIFORNIA. | | | | | |
| University of California | 22 | 20 | 2 | 9.0 | 5 |
| COLORADO. | | | | | |
| Colorado School of Medicine | 8 | 8 | 0 | 0 | 7 |
| CONNECTICUT. | | | | | |
| Yale University | 29 | 29 | 0 | 0 | 6 |
| ILLINOIS. | | | | | |
| College of P. and S., Chicago | 276 | 259 | 17 | 6.1 | 25 |
| Northwestern University | 175 | 172 | 3 | 1.7 | 22 |
| Rush Medical College | 203 | 193 | 10 | 4.9 | 28 |
| Dearborn Medical College | 29 | 28 | 1 | 3.4 | 2 |
| IOWA. | | | | | |
| Drake University | 14 | 13 | 1 | 7.1 | 2 |
| Sioux City Coll. of Medicine | 15 | 15 | 0 | 0 | 2 |
| University of Iowa | 75 | 74 | 1 | 1.3 | 7 |
| KANSAS. | | | | | |
| Kansas Medical College | 21 | 20 | 1 | 4.8 | 5 |
| MAINE. | | | | | |
| Medical School of Maine | 20 | 20 | 0 | 0 | 3 |
| MARYLAND. | | | | | |
| Johns Hopkins University | 60 | 60 | 0 | 0 | 24 |
| MASSACHUSETTS. | | | | | |
| Harvard Univ. Medical School | 101 | 101 | 0 | 0 | 14 |
| Tufts College Medical School | 73 | 67 | 6 | 8.2 | 8 |
| MICHIGAN. | | | | | |
| University of Michigan (R) | 111 | 107 | 4 | 3.6 | 21 |
| MISSOURI. | | | | | |
| Univ. Med., Kansas City | 49 | 46 | 3 | 6.1 | 10 |
| Kansas City Medical College | 36 | 33 | 3 | 8.3 | 7 |
| Washington University | 49 | 45 | 4 | 8.2 | 16 |
| University of Missouri | 7 | 7 | 0 | 0 | 6 |
| NEW HAMPSHIRE. | | | | | |
| Dartmouth Med. Coll | 15 | 15 | 0 | 0 | 3 |
| NEW YORK. | | | | | |
| Albany Med. Coll. | 53 | 53 | 0 | 0 | 5 |
| College of P. and S. | 210 | 210 | 9 | 4.3 | 23 |
| Cornell University | 79 | 79 | 0 | 0 | 10 |
| Long Island College Hospital | 83 | 77 | 6 | 7.2 | 5 |
| N. Y. Womans Medical College | 10 | 10 | 0 | 0 | 3 |
| University and Bellevue | 60 | 59 | 1 | 1.7 | 12 |
| Syracuse University | 32 | 32 | 0 | 0 | 3 |
| University of Buffalo | 54 | 54 | 0 | 0 | 6 |
| OHIO. | | | | | |
| Western Reserve University | 24 | 24 | 0 | 0 | 5 |
| College of P. & S., Cleveland | 18 | 17 | 1 | 5.9 | 2 |
| Medical College of Ohio | 41 | 38 | 3 | 7.3 | 8 |
| Miami Medical College | 24 | 24 | 0 | 0 | 3 |
| Starling Medical College | 36 | 33 | 3 | 8.3 | 7 |
| PENNSYLVANIA. | | | | | |
| University of Pennsylvania | 157 | 152 | 5 | 3.1 | 23 |
| Jefferson Medical College | 208 | 200 | 8 | 3.8 | 34 |
| Woman's Medical Coll., Phila. | 48 | 46 | 2 | 4.2 | 16 |
| TENNESSEE. | | | | | |
| Vanderbilt University | 25 | 23 | 2 | 8.0 | 10 |
| TEXAS. | | | | | |
| University of Texas | 11 | 11 | 0 | 0 | 2 |
| VERMONT. | | | | | |
| University of Vermont | 67 | 61 | 6 | 8.9 | 12 |
| VIRGINIA. | | | | | |
| University College of Medicine | 57 | 52 | 5 | 8.7 | 4 |
| University of Virginia | 54 | 50 | 4 | 7.4 | 12 |
| Totals | 2,788 | 2,673 | 115 | 4.2 | 10 |

sidered in making comparisons between colleges. A college having an exceedingly low standard, by having its graduates all locate in the home state, may thus show a lower percentage of failures than a college of much higher standard. This table will enable one to correct such an impression.

Colorado and Kentucky registered without examination graduates of their own schools. Reports from Missouri, as before stated, did not contain the year of graduation, so we could not use the data.

The figures in italics give the results by states. The first column of italic figures show the difference between the percentages of home colleges and of colleges of other states. The plus sign indicates that colleges of other states have the larger percentage of rejections; the minus sign indicates that the home colleges have had the greater percentage rejected.

Table H, also based on Table C, shows the percentage of rejections by each state, the states having the highest number rejected being given first. This table is of but comparative value. In making comparisons a number of other points must be considered. Some states scrutinize the credentials of candidates carefully before allowing them to come up for examination, thereby eliminating those who would be more apt to fail at the examinations. In Kentucky and Colorado a number of applicants were registered on presentation of acceptable credentials without examination. These are included in figuring the percentage of rejections. Columns showing candidates from colleges of home states and colleges of other states are arranged to allow comparison with Table G.

In Tables I, J, K and L, the colleges have been classified according to the percentages of failures. For greater fairness to all these figures this year have been drawn from Table C, and are, therefore, based on the results obtained from *recent graduates*. Table I shows those colleges receiving less than 10 per cent.; Table J shows those receiving from 10 to 20 per cent., and Table K shows those obtaining 20 per cent. of failures and over. In Table L have been placed all the colleges regarding which the data was insufficient to allow of fair comparison. Owing to the fact that the homeopathic and eclectic colleges have in many states different boards or members of boards passing on the examination papers, comparisons would not be entirely fair and it was thought better to place these colleges in the unclassified list.

There are 44 colleges listed in Table I; of these, 16 had no failures, 11 had from 1 to 5 per cent. failures

TABLE J.—COLLEGES HAVING FROM 10 TO 20 PER CENT. FAILURES.

| College. | Total Examined. | Number Passed. | Number Failed. | Per cen. Failed. | No. of States. |
|---|---|---|---|---|---|
| CALIFORNIA. | | | | | |
| Cooper Medical College | 45 | 38 | 7 | 15.5 | 4 |
| DISTRICT OF COLUMBIA. | | | | | |
| George Washington University | 65 | 54 | 11 | 16.9 | 14 |
| ILLINOIS. | | | | | |
| American Medical Miss. College | 20 | 17 | 3 | 15.0 | 12 |
| INDIANA. | | | | | |
| Central College of P. and S. | 27 | 22 | 5 | 18.5 | 3 |
| Medical College of Indiana | 98 | 81 | 17 | 17.3 | 6 |
| LOUISIANA. | | | | | |
| Tulane University | 87 | 78 | 9 | 10.2 | 13 |
| MARYLAND. | | | | | |
| College of P. and S., Baltimore | 92 | 76 | 16 | 17.3 | 22 |
| MICHIGAN. | | | | | |
| Detroit College of Medicine | 21 | 18 | 3 | 14.2 | 10 |
| MINNESOTA. | | | | | |
| University of Minnesota | 115 | 101 | 14 | 12.1 | 9 |
| MISSOURI. | | | | | |
| Medico-Chirurgical, Missouri | 12 | 10 | 2 | 16.7 | 6 |
| St. Louis University | 85 | 75 | 10 | 11.8 | 17 |
| College of P. and S., St. Louis | 42 | 36 | 6 | 11.6 | 10 |
| NEBRASKA. | | | | | |
| Creighton Medical College | 13 | 11 | 2 | 15.3 | 9 |
| NORTH CAROLINA. | | | | | |
| University of North Carolina | 9 | 8 | 1 | 11.1 | 1 |
| OHIO. | | | | | |
| Ohio Medical University | 51 | 43 | 8 | 15.7 | 10 |
| Toledo Medical College | 8 | 7 | 1 | 12.5 | 3 |
| PENNSYLVANIA. | | | | | |
| Medico-Chirurgical, Philadelphia | 121 | 99 | 22 | 18.2 | 10 |
| West. Pennsylvania Medical Coll. | 88 | 78 | 10 | 11.3 | 6 |
| TENNESSEE. | | | | | |
| Tennessee Medical College | 17 | 14 | 3 | 17.6 | 3 |
| University of Nashville | 56 | 45 | 11 | 19.6 | 12 |
| WISCONSIN. | | | | | |
| Milwaukee Medical College | 20 | 18 | 2 | 10.0 | 2 |
| Wisconsin College of P. and S. | 16 | 14 | 2 | 12.5 | 3 |
| Totals | 1,108 | 943 | 165 | 14.8 | 8 |

and 17 had from 5 to 10 per cent. In Table J, 22 colleges are listed, 10 having 10 per cent. or less than 15 per cent. of failures and 12 which have 15 or less than 20 per cent. of failures. In Table K, 40 colleges are listed, 16 having from 20 to 30 per cent. failures, 3 having from 30 to 40 per cent., 12 having from 40 to 50 per cent., 5 having from 50 to 60 per cent., and 4 which have, respectively, 60 per cent., 69.2, 83.3 and 85.7 per cent. of failures.

Our endeavor in the publication of these statistics has been to give an absolutely fair presentation of facts as they exist. A knowledge of such facts is always beneficial, and we trust this exposition of the results of the examination of applicants for license to practice medicine in the United States will help in the advancement of medical education in this country .

Although there were one or two states from which, owing to local difficulties, reports were not received, we have received from all examining boards a ready coöperation which has been most encouraging. We wish to acknowledge our indebtedness to the state examining and licensing boards, whose complete reports have made the publication of these data possible.

TABLE K.—COLLEGES HAVING 20 PER CENT. OF FAILURES AND ABOVE.

| College. | Total Examined. | Number Passed. | Number Failed. | Per Cent. Failed. | No. of States. |
|---|---|---|---|---|---|
| CALIFORNIA. | | | | | |
| California Medical College | 10 | 4 | 6 | 60.0 | 5 |
| Coll. of P. and S., San Francisco | 33 | 19 | 14 | 42.3 | 6 |
| University of So. California | 29 | 16 | 13 | 44.8 | 4 |
| COLORADO. | | | | | |
| Denver and Gross | 19 | 14 | 5 | 26.3 | 11 |
| DISTRICT OF COLUMBIA. | | | | | |
| Georgetown University | 30 | 22 | 8 | 26.7 | 11 |
| Howard University | 34 | 26 | 8 | 23.5 | 13 |
| GEORGIA. | | | | | |
| College of P. and S., Atlanta | 12 | 9 | 3 | 25.0 | 7 |
| ILLINOIS. | | | | | |
| Illinois Medical College | 53 | 41 | 12 | 22.6 | 17 |
| Jenner Medical College | 21 | 15 | 6 | 28.6 | 5 |
| INDIANA. | | | | | |
| Ft. Wayne College of Medicine | 14 | 10 | 4 | 28.6 | 2 |
| IOWA. | | | | | |
| Keokuk Med. Coll., C. of P. & S. | 70 | 55 | 15 | 21.4 | 12 |
| KENTUCKY. | | | | | |
| Hospital College of Medicine | 40 | 21 | 19 | 47.5 | 14 |
| Kentucky School of Medicine | 35 | 22 | 13 | 38.2 | 16 |
| Louisville Medical College | 26 | 14 | 12 | 44.0 | 13 |
| University of Louisville | 35 | 22 | 13 | 37.1 | 13 |
| Kentucky University | 35 | 18 | 17 | 48.4 | 16 |
| LOUISIANA. | | | | | |
| Flint Medical College | 12 | 2 | 10 | 83.3 | 3 |
| MARYLAND. | | | | | |
| Baltimore Medical College | 120 | 85 | 35 | 29.1 | 25 |
| Baltimore University | 52 | 16 | 36 | 69.2 | 13 |
| University of Maryland | 116 | 85 | 31 | 26.7 | 16 |
| Maryland Medical College | 115 | 54 | 61 | 53.0 | 18 |
| MASSACHUSETTS. | | | | | |
| Coll. of P. & S., Boston | 31 | 18 | 13 | 41.9 | 10 |
| MINNESOTA. | | | | | |
| Hamline University | 35 | 21 | 14 | 40.0 | 7 |
| MISSOURI. | | | | | |
| Central Medical College | 17 | 12 | 5 | 29.4 | 3 |
| Ensworth Medical College | 15 | 8 | 7 | 46.6 | 5 |
| Barnes Medical College | 59 | 43 | 16 | 27.1 | 17 |
| NEBRASKA. | | | | | |
| University of Nebraska | 14 | 9 | 5 | 35.7 | 9 |
| NORTH CAROLINA. | | | | | |
| Leonard School of Medicine | 45 | 21 | 24 | 53.3 | 10 |
| North Carolina Medical College | 30 | 22 | 8 | 26.6 | 2 |
| OREGON. | | | | | |
| University of Oregon | 36 | 17 | 19 | 52.7 | 3 |
| Willamette Univ. | 11 | 5 | 6 | 55.5 | 1 |
| SOUTH CAROLINA. | | | | | |
| Medical Coll. of South Carolina | 32 | 25 | 7 | 23.3 | 6 |
| TENNESSEE. | | | | | |
| Knoxville Medical College | 7 | 1 | 6 | 85.7 | 5 |
| University of Tennessee | 34 | 20 | 14 | 41.2 | 12 |
| Meharry Medical College | 55 | 31 | 24 | 43.6 | 16 |
| Memphis Hospital Medical Coll. | 77 | 52 | 25 | 29.9 | 8 |
| University of the South | 57 | 30 | 27 | 47.3 | 15 |
| Chattanooga Medical College | 42 | 21 | 21 | 50.0 | 11 |
| TEXAS. | | | | | |
| Baylor University | 7 | 4 | 3 | 42.8 | 5 |
| VIRGINIA. | | | | | |
| Medical College of Virginia | 50 | 38 | 12 | 24.0 | 7 |
| Totals | 1,565 | 968 | 597 | 38.2 | 10 |

TABLE L.—UNCLASSIFIED COLLEGES.

In this list have been placed all colleges regarding which there was insufficient data to allow of comparison.

| College. | Total Examined. | Number Passed. | Number Failed. | Per cent. Failed. | No. of States. |
|---|---|---|---|---|---|
| ARKANSAS. | | | | | |
| Med. Dept. Univ. Arkansas (R.) | 1 | 1 | 0 | 0 | 1 |
| CALIFORNIA. | | | | | |
| Hahnemann Medical College (H.) | 15 | 11 | 4 | 26.7 | 2 |
| Oakland Coll. of Med. and Sur. | .. | .. | .. | .. | .. |
| Coll. of P. and S., Los Angeles | 2 | 2 | 0 | 0 | 1 |
| COLORADO. | | | | | |
| Denver Homeo. Med. Coll. (H.) | 2 | 2 | 0 | 0 | 1 |
| GEORGIA. | | | | | |
| Georgia Coll. of Ecl. M. and S. | 3 | 0 | 3 | 100.0 | 2 |
| Medical College of Georgia | 3 | 3 | 0 | 0 | 2 |
| ILLINOIS. | | | | | |
| Bennett Medical College (E.) | 30 | 27 | 3 | 10.0 | 5 |
| Chi. Homeo. M. C. (H.), extinct. | 10 | 6 | 4 | 40.0 | 7 |
| Coll. of Med. and Surg. (Ph.M.) | 13 | 7 | 6 | 46.1 | 3 |
| Hahnemann M. C., Chicago (H.) | 64 | 56 | 8 | 12.5 | 15 |
| Harvey Medical College, extinct. | 18 | 16 | 2 | 11.1 | 3 |
| Hering Medical College (H.) | 21 | 19 | 2 | 9.5 | 7 |
| National Medical University (?) | 22 | 21 | 1 | 4.5 | 5 |
| American Coll. of M. and S. (E.) | 50 | 43 | 7 | 14.0 | 8 |
| INDIANA. | | | | | |
| Physio-Medical, Ind. (Ph.M.) | 7 | 4 | 3 | 42.8 | 1 |
| Eclectic Med. Coll. of Ind. (E) | 6 | 4 | 2 | 33.3 | 3 |
| Ind. Univ. School of Medicine | 4 | 4 | 0 | 0 | 2 |
| IOWA. | | | | | |
| Univ. of Iowa Homeo. Dept. | 1 | 1 | 0 | 0 | 1 |
| KANSAS. | | | | | |
| P. and S. Kansas City (R.) | 3 | 3 | 0 | 0 | 3 |
| School of Med., Univ. of Kansas | .. | .. | .. | .. | .. |
| KENTUCKY. | | | | | |
| Louisville National M. C. (R.) | 1 | 1 | 0 | 0 | 1 |
| Southern Homeo. M. C. (H.) | 3 | 1 | 2 | 66.7 | 1 |
| MARYLAND. | | | | | |
| Southern Homeo M. C. (H.) | 14 | 13 | 1 | 7.1 | 4 |
| Woman's M. C., Baltimore, (R.) | 5 | 5 | 0 | 0 | 5 |
| MASSACHUSETTS. | | | | | |
| Boston University (H.) | 17 | 15 | 2 | 4.8 | 6 |
| MICHIGAN. | | | | | |
| Detroit Homeo. Med. Coll. (H.) | .. | .. | .. | .. | .. |
| Michigan Coll. of M. and S. (R.) | 2 | 1 | 1 | 50.0 | 2 |
| Grand Rapids Med. Coll. (R.) | 2 | 1 | 1 | 50.0 | 2 |
| Univ. of Michigan Homeo. (H.) | 13 | 13 | 0 | 0 | 6 |
| MINNESOTA. | | | | | |
| University of Minnesota (H.) | 1 | 1 | 0 | 0 | 1 |
| MISSOURI. | | | | | |
| Kansas City Hahn. Med. Coll | 4 | 3 | 1 | 25.0 | 2 |
| Eclectic Medical University | 3 | 2 | 1 | 33.3 | 2 |
| American Medical College (E.) | 7 | 5 | 2 | 28.6 | 6 |
| Homeo. Med. Coll. of Misouri | 5 | 5 | 0 | 0 | 4 |
| NEBRASKA. | | | | | |
| Lincoln Medical College (E.) | 8 | 5 | 3 | 37.5 | 5 |
| NEW YORK. | | | | | |
| Eclectic Medical College (E.) | 16 | 13 | 3 | 18.7 | 2 |
| New York Homeo M. C. (H.) | 24 | 23 | 1 | 4.2 | 4 |
| OHIO. | | | | | |
| Cleveland Homeo. Med. College | 27 | 27 | 0 | 0 | 7 |
| Eclectic Medical Institute (E.) | 48 | 36 | 12 | 25.0 | 11 |
| Pulte Medical College (H.) | 8 | 7 | 1 | 12.5 | 5 |
| PENNSYLVANIA. | | | | | |
| Temple College of Med. (R.) | 2 | 2 | 0 | 0 | 2 |
| Hahnemann M. C. of Pa. (H.) | 51 | 50 | 1 | 1.9 | 9 |
| TENNESSEE. | | | | | |
| Chattanooga National Med Coll. | .. | .. | .. | .. | .. |
| University of W. Tennessee (R.) | 2 | 0 | 2 | 100.0 | 1 |
| TEXAS. | | | | | |
| Fort Worth University (R.) | 4 | 3 | 1 | 25.0 | 3 |
| Dallas Med. Coll. (R.), extinct. | 3 | 1 | 2 | 66.7 | 2 |
| Gate City Medical College (R.) | 5 | 2 | 3 | 60.0 | 2 |
| Southwestern University (R.) | 2 | 1 | 1 | 50.0 | 2 |
| Coll. of P. and S., Dallas (R.) | 1 | 1 | 0 | 0 | 1 |
| Totals | 553 | 467 | 86 | 15.6 | 3 |

## RECIPROCITY.

Physicians and students are continually writing us for information in regard to reciprocity between the various state examining boards. The following information is based on statements received direct from the examining boards themselves and so should be approximately correct. We shall consider it a favor if state boards will correct any errors or wrong impressions which may have crept in, as we are daily replying to correspondents on these points.

The ideal basis for reciprocity would of course be uniform—and therefore equally high—standards by all the boards. But this is considered by many an idea too utopian to be considered. As conditions now exist, states having comparatively equal standards have arranged for reciprocity on two different bases: (1) On the basis of an examination before an examining board, and (2) on a diploma without an examination.

*1. On the Basis of an Examination.*—This basis is acceptable to a larger number of states than the second. A physician must have passed an examination before an examining board and (under most provisions) have resided in that state a year succeeding the examination, whereon he may register in any other state of the group through reciprocity without examination.

*2. On the Basis of a Diploma Without Examination.*—This applies only where the applicant was registered in another state prior to the date when the state receiving him through reciprocity required an examination. For example, a physician of good repute was registered to practice medicine in Nebraska in 1880. For good reasons he desires to change residence to Minnesota. Taking for granted his credentials were otherwise acceptable, he is eligible to registration in that state through reciprocity, since Minnesota did not require examination of all applicants until Jan. 1, 1887. Those who registered in Nebraska since Jan. 1, 1887, would not be eligible through reciprocity unless they could register on Basis No. 1.

The reciprocity table published herewith is based on statements from the various examining boards and other data, which we have reason to believe is reliable. The figures given on the table indicate (1) whether reciprocity is on the basis of an examination, and (2) whether reciprocity is on either the basis of an examination or on a diploma without examination. In the table are a number of states which apparently do not reciprocate with others, although having authority under their laws to do so. In regard to reciprocity with these, one should refer to the special statements below regarding reciprocity with these states.

While the various states reciprocate, as stated in the table, most of them have other requirements. All of them require that the applicant must be of good moral character and that he shall hold credentials from a recognized medical college. Many require one or two years of reputable practice, and some require that he must have been a member of a county, state or national medical society for at least a year. Regarding these special requirements one should correspond with the secretary of the examining board of the state where he wishes to locate.

**The laws of the following states have provisions for reciprocity, but no information is at hand as to what arrangements have been made with any states in regard to it:**

**CALIFORNIA.—"The board may, in its discretion, accept and register, on payment of the registration fee, and without examination of the applicant, any certificate which shall have been issued to him by the medical examining board of the District of Columbia, or of any state or territory of the United States; provided, that the legal requirements of such board shall have been, at the time of issuing such certificate, in no degree or particular less than those of California at the time when the certificate shall be presented for registration to the board created by this act; and provided, further, that the provisions in this paragraph contained shall be held to apply only to such of said medical examining boards as accept and register the certificates granted by this board, without examination of them, of the ones holding such certificate." The registration fee is $20.00. California does not yet reciprocate with any other state.**

**COLORADO.—It is the policy of this board to license without examination applicants who have been legally engaged in the practice of medicine in other states, provided they qualified in those states by offering in evidence a standard of educational and moral qualification which was required in Colorado for the corresponding year. This board will also register without examination all applicants who have been admitted and are duly authorized and empowered to practice medicine in any of the regular medical departments of the Army, Navy and Public Health and Marine-Hospital Service of the United States of America, and who are in good standing and of good repute in such Federal service.**

**CONNECTICUT.—The license granted by any other state may be accepted on presentation of satisfactory evidence that said license was granted after an examination equivalent to that of the Connecticut board.**

**DELAWARE.—The board indorses the certificate of license issued after examination by any state medical examining and licensing board whose standard of requirements is substantially the same as that of Delaware or higher, irrespective of reciprocity, provided the applicant furnishes satisfactory proof of good moral character. Reciprocal registration fee, $50.00.**

**DISTRICT OF COLUMBIA.—The board is authorized to license, without examination, any applicant who has been engaged in the practice of medicine and surgery in any other state, territory or insular possession of the United States or a foreign country for the last two years, and who received his license under conditions equivalent to those required in the District of Columbia; provided, that the licentiates of the district board are granted a similar privilege.**

**KANSAS.—The board may accept the certificate of the board of registration and examination of any other state or territory or any foreign country whose standards of qualification for practice are equivalent to those of this state.**

**MAINE.—Any person who is eligible for examination before this board, and who has been examined and registered or licensed by the examining board of any other state which maintains a standard of education at least equal to that required in this state, may be registered on complying with the requirements of the board.**

**MISSOURI.—The legislature passed a reciprocal clause granting us the privilege to hold reciprocal relation with states having a standard of requirements equal to the requirements of this state.**

**NEW HAMPSHIRE.—Applicants examined and licensed by other state examining boards registered by the regent as maintaining standards not lower than those provided by this state, may, on payment of $5.00, be licensed without examination.**

**NEW JERSEY.—New Jersey will now indorse the medical license issued by any state after examination, whose educational, examining, and licensing requirements are substantially equal to, or higher than those of New Jersey, irrespective of reciprocity, provided the applicant complies with the conditions of indorsement. The fee is $50.00.**

**NEW MEXICO.—On payment of the regular fee, the board may grant licenses to licentiates of other states and territories which have like requirements, and when said states and territories reciprocate in this matter.**

RECIPROCITY TABLE.

| | Alabama. | Arizona. | Arkansas. | California. | Colorado. | Connecticut. | Delaware. | District of Columbia. | Florida. | Georgia. | Idaho. | Illinois. | Indiana. | Indian Territory. | Iowa. | Kansas. | Kentucky. | Louisiana. | Maine. | Maryland. | Massachusetts. | Michigan. | Minnesota. | Mississippi. | Missouri. | Montana. | Nebraska. | Nevada. | New Hampshire. | New Jersey. | New Mexico. | New York. | North Carolina. | North Dakota. | Ohio. | Oklahoma. | Oregon. | Pennsylvania. | Rhode Island. | South Carolina. | South Dakota. | Tennessee. | Texas. | Utah. | Vermont. | Virginia. | Washington. | West Virginia. | Wisconsin. | Wyoming. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Arizona | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Arkansas | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| California | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Colorado | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Connecticut | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Delaware | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | 1 | .. |
| District of Columbia | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | 1 |
| Florida | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Georgia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 2 | .. | .. | 2 | .. | 2 | .. | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .. | 2 | 1 |
| Idaho | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Illinois | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 1 | .. | .. | 1 | 1 | .. | 1 | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | 1 | 1 | .. |
| Indiana | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | 2 | 2 | .. | 2 | 2 | .. | 2 | .. | .. | .. | .. | 2 | 2 | .. | 2 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | 2 | .. |
| Indian Territory | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Iowa | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 2 | .. | 1 | 2 | .. | .. | 2 | 2 | .. | 2 | 2 | .. | 2 | 1 | .. | 1 | .. | 2 | 2 | .. | 1 | .. | .. | .. | 2 | .. | .. | .. | .. | 2 | 1 | .. | 2 | .. | .. | .. | .. | 2 | 1 |
| Kansas | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | 2 | .. | 2 | .. | 2 | 2 | .. | 2 | 2 | .. | .. | .. | 2 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 |
| Kentucky | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 2 | .. | .. | 2 | .. | 2 | 2 | .. | .. | 2 | 2 | .. | 2 | .. | .. | .. | .. | 2 | .. | .. | .. | 2 | .. | .. | 1 | 2 | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. |
| Louisiana | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | 2 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Maine | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | 1 | .. | .. | .. | 1 | 2 | .. | 2 | 2 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | 2 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | 1 |
| Maryland | .. | .. | .. | .. | .. | .. | 2 | 2 | .. | 2 | .. | 1 | 2 | .. | 2 | 2 | .. | .. | 2 | .. | .. | 2 | .. | .. | .. | .. | 2 | .. | 2 | .. | .. | .. | .. | 1 | 2 | .. | 2 | .. | 2 | .. | .. | .. | .. | 1 | 1 | .. | .. | 2 | 1 |
| Massachusetts | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Michigan | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | 1 | 2 | .. | 2 | 2 | 2 | .. | 2 | 2 | .. | .. | 2 | .. | 2 | .. | 2 | 2 | .. | 1 | .. | 2 | .. | 1 | 2 | .. | .. | .. | 1 | .. | .. | .. | .. | 2 | 1 | .. | .. | 2 | 1 |
| Minnesota | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | 2 | .. | .. | 2 | 1 | .. | 2 | .. | .. | 1 | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | 2 | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | 2 | 1 |
| Mississippi | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Missouri | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 2 | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Montana | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Nebraska | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 1 | 2 | .. | 2 | 2 | .. | .. | 2 | .. | .. | 2 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | 1 |
| Nevada | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 2 | .. | .. | .. | .. | .. | .. | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | .. | .. | .. | .. | .. | .. |
| New Hampshire | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| New Jersey | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | 1 | .. |
| New Mexico | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. |
| New York | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| North Carolina | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| North Dakota | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | .. | 1 | .. | 1 | 2 | .. | 2 | 2 | .. | .. | .. | 2 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | 1 | 1 |
| Ohio | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | 1 | 2 | .. | .. | .. | .. | .. | 2 | 2 | .. | 2 | 2 | .. | .. | .. | 2 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | 2 | .. |
| Oklahoma | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Oregon | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Pennsylvania | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Rhode Island | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Carolina | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | 1 | 1 | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | 1 | 1 |
| South Dakota | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. |
| Tennessee | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Texas | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. |
| Utah | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Vermont | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Virginia | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | .. |
| Washington | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| West Virginia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Wisconsin | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | .. | 1 | 2 | .. | 2 | 2 | 2 | .. | .. | 2 | .. | 2 | 2 | .. | .. | .. | 2 | .. | .. | 1 | 2 | .. | .. | 1 | 2 | .. | .. | .. | 1 | 1 | .. | .. | .. | 1 | 1 | .. | .. | .. | 1 |
| Wyoming | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | 1 | 1 | .. | .. | 1 | .. | .. | 1 | 1 | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | 1 | .. |

Key: 1, Reciprocates on basis of an examination. 2, Reciprocates on diploma or examination.

SOUTH DAKOTA.—The board is empowered to accept and license on the payment of the regular fee ($20.00), without examination, the holder of a license issued by the examining board of any other state or territory having requirements equal to those of the state of South Dakota at the time when such license is presented for registration, and who grant reciprocal privileges.

UTAH is authorized to reciprocate with states having equally high standards.

VERMONT.—The board will endorse the certificate or license of any state medical examining and licensing board in accordance with the following section of the Public Acts of 1904: The board shall issue licenses without examination to reputable physicians and surgeons who shall personally appear and present a certified copy of certificate of registration or license, which has been issued to said applicant in another state in the Union, where the requirements for registration shall be deemed by said board to be equivalent to those of this state, provided such state shall accord a like privilege to holders of a license granted under the laws of this state. Each applicant for such license shall pay to the board the sum of $10.00.

WYOMING.—The board may, in its discretion, grant certificates on licenses issued by the medical examining board of the District of Columbia, or of any state or territory of the United States, provided they have been granted on requirements no less than those of Wyoming, and provided, further, that the board of the state or territory issuing the license reciprocates on the same terms with Wyoming.

No RECIPROCITY.—The following states have made no statement in regard to or no arrangements for reciprocity:

Alabama.
Arizona.
Arkansas.
Florida.
Idaho.
Indian Territory.
Louisiana.
Massachusetts.
Mississippi.
Montana.
North Carolina.
Oklahoma.
Oregon.
Pennsylvania.
Rhode Island.
Tennessee.
Washington.
West Virginia.

## EDUCATION NOTES.

### New Colleges.

Nine new schools have been organized since June, 1905, five of which had matriculants. These colleges are the College of Physicians and Surgeons, Little Rock, Ark.; the Atlanta School of Medicine, Atlanta, Ga.; the Indiana Medical College, School of Medicine of Purdue University, Indianapolis, Ind.; the State College of Physicians and Surgeons, Indianapolis, Ind.; the Mississippi Medical College, Meridian, Miss.; the Nebraska College of Medicine, Lincoln, Neb.; the Medical Department of the University of North Dakota, University, N. Dak.; the College of Physicians and Surgeons, Memphis, Tenn., and the Medical Department of the University of Utah, Salt Lake City, Utah.

### Colleges Which Have Raised Standards During the Past Year.

The colleges listed below, according to their announcements, have made an increase in entrance requirements during the past year:

University of California, two years of work in a college of arts.
University of Missouri, one year in a college of arts.
George Washington University, two years of work in a college of arts, beginning with the session of 1909-10.
University of Texas Medical Department, the equivalent of one year's work in a college of arts, beginning in 1909.

Colleges which have already been requiring one or more years of work in a literary college are the following:

Harvard Medical School requires a degree from a college of liberal arts.
Johns Hopkins Medical School requires a degree.
Western Reserve University Medical Department, three years.
Rush Medical College, two years.
Indiana University Medical School, two years.
University of Minnesota, both regular and homeopathic departments, one year now, will require two years hereafter.
College of Physicians and Surgeons, New York, requires one year.

The faculties of the following colleges have voted to require a preliminary year in physics, chemistry, biology and languages to apply to all students beginning medical study after Jan. 1, 1910:

College of Physicians and Surgeons, San Francisco.
Northwestern University Medical School.
Jenner Medical College.
State University of Iowa, both regular and homeopathic departments.
University of Kansas, Medical Department.
College of Physicians and Surgeons, Baltimore.
College of Physicians and Surgeons, Boston.
Cleveland Homeopathic Medical College.
Cleveland College of Physicians and Surgeons.
University of Tennessee Medical Department.
Dearborn Medical College (evening classes) has extended its course to five years.

The following colleges, according to their announcements, have lengthened their annual sessions as follows:

1. Medical College of Alabama, from six to seven months.
2. University of Arkansas, from six to seven months.
3. College of Physicians and Surgeons, Los Angeles, from eight to eight and one-half months.
4. Denver Homeopathic Medical College, from seven to eight months.
5. Georgetown University, from eight to eight and one-half months.
6. Atlanta College of Physicians and Surgeons, from six to seven months.
7. Atlanta School of Medicine, from six to seven months.
8. Hahnemann Medical College, Chicago, from seven to eight months.
9. Physiomedical College of Indiana, from seven to eight months.
10. Keokuk Medical College of Physicians and Surgeons, from seven to eight months.
11. Maryland Medical College, from eight to nine months.
12. Baltimore University Medical Department, from six to nine months.
13. Detroit College of Medicine, from seven to eight months.
14. Barnes Medical College, from seven to eight months.
15. Western Reserve University, from eight to eight and one-half months.
16. Willamette University, from six to seven months.
17. University of Oregon Medical Department, from seven to seven and one-half months.
18. University of Tennessee Medical Department, from six to seven months.
19. Chattanooga Medical College, from six to seven months.
20. Memphis Hospital College, from six to seven months.
21. Eclectic Medical College of Indiana, from six to seven months.

### Distribution of Medical Students.

Table 2, on pages 630 to 633, shows the distribution of students of each college by states. The influence of the proximity of the medical school is seen in the fact that states which have medical colleges have more students in proportion to the population than those which have none. Only three states contributed over 2,000 students: New York, 2,361, Illinois, 2,383; Pennsylvania, 2,115. Two states contributed over 1,000 students, but less than 2,000; Missouri, 1,087, and Texas, 1,026. Ohio contributed 975 students; Massachusetts, 923; Kentucky, 891; Iowa, 828, and Indiana, 815. Of the states having the fewest students, Arizona and Wyoming each had 9. Nevada and New Mexico each contributed 23; Montana, 27; Idaho, 41; Delaware, 54; North Dakota, 61, and South Dakota, 79. The states not mentioned contributed between 100 and 700 each. Only one college failed to furnish the information needed in time for publication. In this instance, that the totals may be more nearly accurate, we have inserted the distribution of last year. All the states from whom no reports were received last year, sent in their reports this time, so our report is practically complete.

---

**Etiology of Abdominal Conditions.**—J. Gibbs, in the *Canada Lancet*, June, 1906, traces the etiology of infections of the pancreas, duodenum, stomach, gall bladder and liver to the obstruction and stagnation in the intestines and glandular ducts occasioned by prolapse of the organs following relaxation of the abdominal walls.

# *Medical News*

## ARKANSAS.

**Personal.**—Dr. Joseph P. Sheppard, Little Rock, will succeed Dr. William P. Illing as superintendent of the Pulaski County Hospital on October 31, when Dr. Illing's resignation will become effective.——Dr. George H. Martindale, Hope, is reported to have shot and killed Sam Thomas at Patmos, August 14.——Dr. George S. Brown has been elected president, Dr. George D. Dickerson, secretary, and Dr. Joseph S. Westerfield a member of the Conway Board of Health.

## CALIFORNIA.

**Banquet to Red Cross Director.**—A banquet was given at the St. Francis Hotel, July 31, in honor of Dr. Edward T. Devine, director of the American Red Cross, and after the banquet a silver loving-cup was presented to him by the citizens of San Francisco.

**Mortality.**—The mortality for June was at an annual death rate of 15.5 per 1,000. Tuberculosis was the chief cause of death, followed by diseases of the circulatory and nervous systems and by pneumonia. The most fatal epidemic diseases in order were typhoid fever, measles, whooping-cough, diphtheria, croup and influenza.

**Hospitals to Be Established.**—Dr. Winslow Anderson has petitioned for a permit to reëstablish the St. Winifred's Sanatorium at 1025 Sutter Street. He proposes to put up a reinforced concrete building.——The regents of the University of California have planned to establish a students' hospital on the campus at Berkeley.

**Personal.**—Dr. R. S. Lanterman, Los Angeles, was caught between the step of his carriage and a heavy truck, August 5, and suffered severe contusions of the leg.——Dr. Quinton J. Rowley, Downey, who has been in practice for many years, retired August 1.——Dr. Chester Rowell, Fresno, who has been dangerously ill, is slightly improved.

**College News.**—The College of Physicians and Surgeons, San Francisco, has petitioned the Board of Supervisors for permission to establish and maintain a medical college at its old address on Fourteenth Street between Woodward Avenue and Stevenson Street.——The regents of the State University, Berkeley, have arranged that the old mining laboratory building is to be used by the department of anatomy and that the other departments of the medical college for the first two years will be housed in the civil engineering building.

**Surgeons for Relief Work.**—The Board of Health of San Francisco has appointed the following surgeons to take charge of the relief work of the city: Drs. Charles Clark, John A. Haderle, H. V. Prouty, David Friedlander, Herbert A. Gale, Arthur B. Nelson, William J. Gavigan, G. C. Albee, Walter S. Johnson, Emil V. Lonigo, Silvis J. Onesti, Frederick R. Starr, Grace Simon, James V. Hughes, Thomas B. W. Leland, George L. Helms, William C. Hopper, William R. P. Clark, William C. Voorsanger, John M. Quigley, Benjamin Apple, William F. McNutt, Jr., Watts and Roland E. Hartley.

## COLORADO.

**New Hospital.**—The Santa Fé Hospital Association has appropriated $25,000 for the erection of a new hospital at La Junta.

**Personal.**—Dr. Richard V. Barta, Denver, has been appointed a police surgeon to succeed Dr. Wilbur L. Davis, resigned.——Dr. Raynor E. Holmes, Canon City, who underwent an operation in Pueblo for appendicitis, July 16, is making a satisfactory recovery.

**Fined for Failure to Report Disease.**—Dr. Chelsea M. Erb, Leadville, charged with having violated the city ordinance, July 31, by failing to report a case of diphtheria within twenty-four hours after its discovery, was found guilty and fined $10 and costs. The case was appealed to the county court.

## CONNECTICUT.

**Off for Europe.**—Dr. William F. Verdi, New Haven, sailed for Europe on the *Kaiser Wilhelm II*, July 17.——Dr. John B. Boucher sailed for Germany, August 4.

**July Deaths.**—During the month of July, 1,525 deaths were reported, 276 more than for June, 125 less than in July, 1905, and 92 more than the average number of deaths during July for the five preceding years. Infectious diseases caused 119 deaths, or 15 per cent. of the total mortality.

**Communicable Diseases.**—On August 11, eight cases of typhoid fever were found on a single milk route in New Haven, and on the same milk route five more cases were discovered August 13.——On August 11, six cases of diphtheria were reported from Windsor Locks. The proper quarantine precautions have been taken.

**Infectious Diseases.**—During July 4 cases of smallpox were reported from 3 towns; 57 cases of measles, with two deaths, from 38 towns; 55 cases of scarlet fever from 24 towns; two cases of cerebrospinal fever, from two towns; 806 of diphtheria, with two deaths, from 22 towns; 92 cases of whooping-cough, with 5 deaths, from 22 towns; 65 cases of typhoid fever, with 4 deaths, from 28 towns; and 58 cases of consumption, from 25 towns, with 23 deaths from the disease.

## DELAWARE.

**Delaware to Fight Tuberculosis.**—The Delaware Anti-Tuberculosis Society has been incorporated and will erect buildings as soon as funds can be secured. Dr. John J. Black is the leader in the movement. The society was organized two months ago at a meeting in Wilmington, when addresses were made by Dr. Lawrence F. Flick, Dr. Joseph Walsh, and other Philadelphians interested in the work. Efforts are being made to raise the money needed for the buildings, and an appropriation by the state legislature is expected next winter. The society will conduct a sanatorium and dispensary for consumptives in the same manner as those at White Haven and elsewhere. It is stated that patients will be cared for in tents until the buildings are completed.

## DISTRICT OF COLUMBIA.

**Personal.**—Dr. John P. Cole, Washington, suffered painful injury by being thrown from his carriage in a runaway, July 28.——Dr. Alfred Richards has been appointed police surgeon of the third surgical district, vice Dr. Charles C. Marbury, resigned.

**Less Typhoid.**—There was a decrease in typhoid fever in the District during the week ended August 11, in which 72 cases were reported. Since the first of the year 519 cases have been reported, and during the same period of 1905 only 395 cases. There were 26 cases under treatment in Washington August 12.

**Health of the District.**—During the week ended August 4 there were 139 deaths reported, 76 among the whites and 63 among the colored population, equivalent to an annual mortality of 22.1 per 1,000. The chief causes of death were: Diarrheal diseases, 18, or 3 less than in the previous week; consumption, 15, 1 less than for the preceding week; kidney disease, 10; heart disease, 9; malignant diseases and pneumonia, each 6; typhoid fever and cerebral hemorrhage, each 5. During the week there were 78 new cases of typhoid fever reported and 21 patients were discharged.

## GEORGIA.

**Personal.**—Dr. and Mrs. J. M. Baird, Columbus, sailed for Europe August 21 on the *Kaiser Wilhelm II.*

**Provision for Insane Consumptives.**—In a bill passed by the house, August 3, provision is made for $10,000 of the last appropriation voted for the State Sanatorium in Milledgeville, to be used for the erection of a building for the isolation of insane consumptives.

**Augusta College Notes.**—The faculty of the Medical College of Georgia has petitioned the city council for $5,000 to enlarge the municipal laboratory.——Drs. Charles W. Crane, William C. Kellogg, William Z. Holliday and William C. Lyle have been added to the faculty of the college.

**Scholarships in Medical Colleges.**—The Governor has issued an order naming the following successful competitors for the beneficiary scholarships in the medical colleges of Georgia: State at Large—Frank C. Tharpe, Buena Vista; Frank P. Norman, West Point; W. E. Braswell, Monroe; John A. Brown, Athens; First District—Harry Sutten, Swainsboro; George L. Smith, Swainsboro; Second District—G. T. Crozier, Cedar Springs; Leonard Baker, Ansley; Third District—Guy C. Lunceford, Americus; Jesse H. Riley, Grovania; Fourth District—Thomas Grant, West Point; W. E. Drane, Buena Vista; Fifth District—W. H. Galloway, Monroe; Mason Smith, Douglassville; Sixth District—W. H. Austin, Griffith; George L. Johnson, Yatesville; Seventh District—W. A. Davis, Marietta, R. F. D.; Irby Simmons, Hiram; Eighth District—O. S. Wood, Madison; G. T. Bernard, Athens; Ninth District—J. S. Burrell, Burton; Ralph Freeman, Dacula; Tenth District—John L. Lee, Augusta; L. B. Royal, Hephzibah; Eleventh District—W. T. Price, Jr.

## ILLINOIS.

**Personal.**—Dr. Albert H. Dollear, Jacksonville, has been appointed assistant physician at the Illinois Western Hospital for the Insane, Watertown.

**Defies State Board.**—John Gregg, Sterling, who has been ordered by the State Board of Health to discontinue practicing massage and magnetic healing on penalty of being prosecuted for violation of the laws, is reported to have written to the State Board of Health that he would continue practicing and that he defied the board to stop him.

**Smallpox.**—A case of smallpox was reported from Evanston August 12, and the patient, who had come from Michigan a few days before, has been taken to the Isolation Hospital, Chicago.——Smallpox in mild form was discovered by the health officer of Peoria, August 13. Three children in one family were affected, and the entire family, consisting of father, mother and six children, were taken to the Detention Hospital. The disease is believed to have been communicated by a member of the family who recently contracted it in California.——A case of smallpox was discovered in a Chicago hospital August 14. The patient lived in a boarding-house in West Monroe street and had recently visited Milwaukee and Joliet.

### Chicago.

**Danger of Typhoid Epidemic.**—According to newspaper reports residents in the southern part of Chicago are threatened with typhoid because of an official blunder in sewer construction, which has produced a dangerous condition of the drainage. The board of local improvements is constructing a new sewer system on Seventy-ninth street, and it is asserted that instead of building the lateral sewers connecting with the homes at the time the work on the sewers was being done, the contractors cut off the drain pipes leading to the street gutters and there is now no outlet for the waste water and sewage from the homes.

**Deaths of the Week.**—During the week ended August 18, 531 deaths were reported, 72 fewer than were reported during the week previous. The chief decreases in death causes were in acute intestinal diseases, 25; consumption, 10, and nephritis, 7. There was a sharp increase in the number of deaths from bronchitis, from 3 to 12. The mortality was equivalent to an annual death rate of 13.52 per 1,000. Acute intestinal diseases still led death causes with 125, followed by consumption with 53; violence, including suicide, with 48; nephritis with 42; pneumonia with 27; heart diseases with 25; cancer with 24, and nervous diseases with 20.

## INDIANA.

**Typhoid Fever.**—Numerous cases of typhoid fever of a severe type are reported at Churubusco and vicinity.——The Secretary of the Board of Health of Evansville has analyzed the drinking water of that city and issued an urgent warning against the drinking of unboiled water.

**July Diseases and Deaths.**—During July diarrhea and cholera morbus were the most prevalent diseases in Indiana. Tonsillitis, rheumatism and dysentery were quite prevalent and there was a decrease in typhoid fever, as compared with July, 1905. There were reported 18 cases of smallpox from 7 counties, with 1 death. Tuberculosis caused 319 deaths during the month; cancer caused 108 deaths; pneumonia was much lessened as compared with the preceding month. Deaths from violence numbered 208, of which 7 were homicides, 13 suicides, and 188 accidental. Of the latter, 36 occurred on steam railways and 4 on the street cars. Burns and scalds caused 18 deaths, drowning 32, ptomain poisoning 3, poisoning 5, suffocation and lightning each 7, sunstroke 8, and mining accidents 6.

## KANSAS.

**Typhoid Fever.**—Six cases of typhoid fever have been reported in Topeka, the largest number thus far reported in a single month.

**Ill in Leavenworth.**—Dr. William R. Van Tuyl, county physician of Leavenworth County, is ill at his home in Leavenworth.——Dr. Harley J. Stacey, Leavenworth, is suffering from septicemia.

**Tuberculosis Census Planned.**—The State Board of Health is endeavoring to secure as nearly a complete census of the tuberculosis in the state as possible. To each of the physicians in the state blanks will be sent for the report of the cases in his practice. The blanks also show the stage of the disease, the causation, and the previous general health of the patient.

## LOUISIANA.

**State Board of Health Moves.**—The State Board of Health has taken a suite of rooms in the Hibernia Building, New Orleans, which will be ready for occupancy about October 1.

**Typhoid Fever.**—Owing to the numerous cases of typhoid fever at New Iberia, the milk supply has been placed under rigid examination and the character of the water supply is also being investigated.

**Polyclinic and College Merged.**—It is stated by the New Orleans *Democrat* that the arrangements have been practically completed for the merging of the New Orleans Polyclinic and Tulane University of Louisiana.

**Personal.**—Dr. J. Ashton Blanchard has been elected city health officer and president of the Shreveport Board of Health. ——Dr. A. H. Butler, New Orleans, has been appointed resident medical inspector at Tela, Honduras.

**Hospital Notes.**—At a regular meeting of the managers of the Truro Infirmary, it was decided to screen thoroughly the entire building, which is now in course of completion.——A sanitarium is to be built at Shreveport, to cost about $20,000.

**Chagres Fever at Quarantine.**—The steamer *Whitehall*, which arrived at Quarantine from Colon August 4, lost three of her complement of 21 men from chagres fever. The steamer was declared to be a menace to all ports and orders were given by the State Board of Health to hold it indefinitely at the Mississippi River Quarantine station.

**Yellow Fever.**—On August 19, Dr. Clifford E. Irion, Benton, president of the State Board of Health, sent out an announcement of a case of yellow fever at New Iberia, 125 miles from New Orleans. The patient was a mulatto boy, 12 years of age, living in an isolated part of the city. Dr. Irion has gone to New Iberia to take charge of the situation.

**Seeks Information.**—The State Board of Health is making every effort to secure as accurate and as reliable information as possible from the practitioners in the state regarding all cases of yellow fever. Circular letters have been sent to all physicians and parish health officers enclosing blank forms and asking them to report to the State Board of Health all cases of yellow fever in their practice.

**Epidemic at Sabine Parish.**—Dr. Fred J. Mayer, a special medical inspector of the State Board of Health, is investigating a peculiar infection in Florien Sabine, where an epidemic of spinal meningitis was reported, with a mortality of 90 per cent. Dr. Mayer considers the epidemic to be typhoid fever, and says that the death rate, which amounted to about 50 per cent., was the result of excessive doses of quinin and calomel.

**Injunction Issued.**—The State Board of Medical Examiners on August 13, filed a suit against D. N. Williams, New Orleans, claiming that he was practicing medicine without having first obtained a certificate as the law requires. Under the law, if Williams has been practicing medicine without warrant of law, he is liable to $100 fine and $50 attorney's fees. In the suit filed, an injunction was asked to restrain Williams from practicing medicine until he should have obtained a certificate, and Judge St. Paul ordered the issue of the injunction.

## MARYLAND.

### Baltimore.

**Personal.**—Dr. William E. Hoffman has been appointed city chemist, vice Dr. Gustav W. Lehman, deceased.——Dr. Alexander D. McConachie is taking a trip to Nova Scotia, New Brunswick and Newfoundland.——Dr. Joseph G. Evans, formerly of Baltimore, now assistant quarantine officer at Cristobal Colon, Canal Zone, is visiting his home in Marion, S. C.

**Donation to Hospital.**—The widow of the late Dr. Samuel L. Frank, who was the president of the Hebrew Hospital at the time of his death, will donate $75,000 to that institution to be used in the erection of a new hospital building adjoining the present one. The new building will be made the hospital proper and the present building will be used as a home for incurables and as a training school for nurses.

## MASSACHUSETTS.

**New Floating Hospital.**—The new floating hospital sailed August 15, on her first trip with 80 permanent and 110 day patients aboard. Dr. Robert W. Hastings, resident physician of the hospital, is in charge of the boat. The cost of the boat, fully equipped, has been about $100,000.

**Personal.**—Dr. William J. Sullivan has resigned as trustee of the pauper institutions of Boston at Long Island. Dr. David D. Scannell and the other trustees, whose resignations were asked for by the Governor, it is reported, refused to resign, and were removed.——Dr. Frederick G. Smith, Summerville, has returned from Germany.

## MICHIGAN.

**Forbidden to Distribute Samples.**—The authorities of Pontiac has forbidden the distribution of samples of patent medicines and circulars.

**Personal.**—W. L. Shuart, Battle Creek, has been appointed a member of the board of preliminary examiners for admission to medical colleges by the State Board of Registration in Medicine.——Dr. and Mrs. Alexander G. McLeod, Calumet, left for Scotland August 1.——Dr. James A. Ardiel, Grand Rapids, has returned from a two-months' trip to Great Britain.

**Northern Michigan Physicians Meet.**—At the annual meeting of the Upper Peninsular Medical Society, held in Escanaba, August 2 and 3, Menominee was decided on as the place for the next meeting, and the following officers were elected: President, Dr. Alfred F. Snyder, Escanaba; vice-presidents, Drs. Benjamin T. Phillips, Menominee and Charles H. Rodi, Calumet; and secretary, Dr. Robert A. Walker, Menominee.

**Coroners Should Be Physicians.**—At the annual meeting and picnic of the Ottawa County Medical Society, July 25, a decided stand was taken in favor of the position of coroner being held only by medical men, and the following resolutions were unanimously adopted, to be presented to the Republican County convention:

The Ottawa County Medical Society wishes to impress on the public and on the county conventions, both Republican and Democratic, that in accordance with the proper performance of the duties of coroner, and especially for the public good, the office of coroner should be filled by a medical man, one fully conversant with medicolegal matters, necessary for the proper understanding of this office. As physicians of Ottawa County and as citizens who have always worked for the good of the people, the medical fraternity suggests that the nominations for the office of coroner be filled with the names of representative physicians instead of laymen.

## MISSISSIPPI.

**Fire Damage.**—At a fire in Moorhead, July 2, Dr. W. A. Attaway suffered a loss of $3,000, partially covered by insurance.

**New Hospital.**—The Board of Trustees of the Mississippi Insane Hospital, Meridian, at its regular meeting, considered plans for two new hospital buildings, to be erected at a cost of $30,000.

**Favorable Health Report.**—On August 3, Dr. John F. Hunter, Jackson, Secretary of the State Board of Health, reported that the general health conditions of the state were never better at this period of the year. From no part of the state was contagious or infectious diseases reported, with the exception of a few cases of scarlet fever.

**Medical College Officers.**—The following are the officers of the Mississippi Medical College, which is to be opened about October 1: President, Dr. W. W. Hamilton; vice-president, Dr. T. A. Barber; secretary, Dr. O. W. Bethea; treasurer, Dr. T. J. Houston, and dean, Dr. N. L. Clarke, and these officers constitute the executive committee. The following have been elected members of the faculty of the institution: Dr. N. L. Clarke, dean and professor of diseases of children; Dr. W. W. Hamilton, obstetrics and clinical genitourinary diseases; Dr. D. U. Wadsworth, surgery; Dr. J. H. Blanks, operative and clinical surgery; Dr. W. W. Reynolds, anatomy; Dr. M. J. Lowrey, gynecology; Dr. O. W. Bethea, pharmacology; Dr. H. F. Tatum, chemistry; Dr. W. J. Anderson, physiology and clinical gastrointestinal diseases; Dr. J. R. Tackett, theory and practice of medicine; Dr. W. H. Rowan, physical diagnosis and chest diseases; Dr. T. A. Barber, eye and ear; Dr. J. E. Seale, nose and throat; Dr. T. J. Houston, genitourinary surgery and venereal diseases; Dr. F. L. Walton, clinical medicine and clinical eye, ear, nose and throat. Lecturers and instructors: Dr. Saro Castle, bacteriology, hygiene and clinical dermatology; Dr. C. H. Ramsey, pathology, histology and electro therapeutics; Dr. James Bennett, demonstrator of anatomy and clinical lecturer on diseases of children; Dr. E. E. Robinson, clinical gynecology, minor surgery and surgical dressing; Dr. S. A. Witherspoon, medical jurisprudence.

## NEW JERSEY.

**Hospital Incorporated.**—Incorporation papers have been filed for the Newark Private Hospital, with a capital of $50,000.

**Anti-Tuberculosis Society.**—A branch of the Association for the Prevention and Relief of Tuberculosis was organized in Camden, August 15, at the office of the mayor.

**Typhoid Fever.**—The seventeen cases of typhoid fever which were reported at Trenton for the week ended August 11, have been traced to one dairy, the owner of which was suffering from the disease. The Board of Health is making thorough plans for the inspection of milk in the city.

**Personal.**—Dr. Edmund Eastwood, Burlington, has resigned as city physician and Dr. Charles Dingee has been appointed to fill the vacancy.——Dr. Claude E. McNenney, Jersey City, was severely injured in a panic on the excursion steamer *Perseus* July 19. He was severely bruised and had one of his lower ribs fractured.——Dr. William O. Bailey, Newark, was thrown from his carriage in a runaway accident, August 9, and sustained severe lacerations and contusions and injuries of the right hip.

## NEW YORK.

### New York City.

**Foul Bakeries.**—The health board in its recent investigation has found 229 insanitary bakeries.

**Personal.**—Dr. J. Hubley Schall sailed on the *Minneapolis* August 18.——Dr. William T. McMannis returned last week from Europe.

**Ellis Island Epidemic.**—Trachoma has been unusually prevalent at Ellis Island, 127 immigrants having been deported on account of this disease during the first two weeks of August.

**Public School Nurses.**—In 1905, the Health Department spent $60,000 for nurses employed in public school and tenement-house work. An allowance of $55,000 has been made for the same purpose for the present year.

## NORTH CAROLINA.

**Typhoid Epidemic at Elizabeth Seminary.**—Passed-Assistant Surgeon Anderson of the Public Health and Marine-Hospital Service, has completed his investigation of the typhoid fever epidemic which occurred in May at Elizabeth Seminary, Charlotte. The school has 180 pupils and teachers, 92 of whom boarded in the college, of these 33 developed a supposed enteric fever within the ten days from May 10 to May 20. Dr. Anderson thinks (*Public Health Reports*) that only 17 of these were genuine typhoid, since the other cases had a duration of less than a week. None of the day pupils, about 88 in number, developed enteric fever during this time. The epidemic seems to be traceable to an additional supply of milk which was first used at the college twenty-one days before the outbreak of the fever. Practically the entire water supply of the city of Charlotte is infected, apparently in consequence of the presence of cases of enteric fever on the watershed, and the unscientific and faulty method of conducting the filtration plant, which removes only about 88 per cent. of the bacteria. Bacteriologic and chemical study of the water supply, proper policing of the watershed, daily examinations of the water, closure of infected springs and wells, the regulation of the milk business and the ice industry, sterilization of milk bottles and utensils are recommended. It is suggested that ice ought not to be put directly into milk or drinking water. If these suggestions are carried out Dr. Anderson states that parents need have no hesitancy in sending their daughters to Elizabeth College for the ensuing session.

## NORTH DAKOTA.

**Personal.**—Dr. Henry H. Ruger, Devil's Lake, one of the pioneer practitioners of North Dakota, had a severe cerebral hemorrhage a few days ago, but is now reported to be slowly improving.

**District Medical Society Meeting.**—The annual meeting of the Grand Forks Medical Society was held in Grand Forks, July 11, and the following officers were elected: Dr. Frank J. King, St. Thomas, president; Dr. James Grassick, Grand Forks, vice-president; Dr. Henry H. Healy, Grand Forks, secretary; Dr. Archie L. McDonald, Grand Forks, treasurer; Drs. W. H. Bates and Charles S. Crane, Grand Forks, delegates to the state society, and Dr. Charles A. Warner, Petersburg, censor.

## OHIO.

**Submit Plans for Tuberculosis Hospital.**—The State Tuberculosis Hospital Commission met August 14 and considered the plans for the hospital submitted for their approval.

**Free Antitoxin.**—The State Board of Health has issued a circular to the boards of health and the officers regarding the free issue of antitoxin for the protection of the public health. The State Board has arranged to keep a stock of fresh antitoxin always on hand, and a supply will be sent immediately to any board of health on request.

**Personal.**—Dr. Joseph A. Stansell, Forest, is critically ill with nephritis and prostatitis.——Dr. Otto Juettner, Cincinnati, has been made an honorary member of the Roentgen Society of Breslau, Germany.——Dr. Philip S. Rieg, Toledo, has been appointed medical examiner for the U. S. Marine Corps for that district.

## OREGON.

**Medical School Remodeled.**—The Medical Department of the University of Oregon, Portland, is to be remodeled at a cost of $3,000.

**Spotted Fever.**—Two serious cases of spotted fever are reported from the sheep country, one at Ironside and the other at Lockhard ranch.

**Fire at State Hospital.**—A fire at the Oregon State Insane Asylum, Salem, caused damage amounting to about $5,000, July 27. The fire was confined to one ward and owing to the fact that the patients had been given a weekly fire drill, they were marched quickly out of the building without casualties.

**Personal.**—Dr. Willis B. Morse, Salem, has been appointed a member of the State Board of Health, vice Dr. Harry M. Lane, Portland, resigned.——Dr. Oregon C. Blaney, Portland, had an attack of vertigo recently and fell, sustaining severe lacerations of the face.——Dr. Frederick Crang. Forest Grove, is reported to be critically ill.

**Annual Report of Board of Health.**—The State Board of Health of Oregon reports that during 1905 there were 3,066 deaths in the state, of which 486 resulted from communicable diseases. There were 4,439 births, of which 2,294 were males and 2,145 females. There were 645 deaths from diphtheria reported, 44 deaths from tuberculosis, and 83 from typhoid fever; smallpox was present at no time during the year to any alarming extent. During the year there were reported 375 cases of typhoid fever, 352 of diphtheria, 338 of measles, 265 of scarlet fever, and 133 of smallpox.

**Hospital Notes.**—The citizens of Forest Grove have formed a hospital association with Dr. Edgar H. Brown as president, and have decided to establish a hospital in that place. The association is to be incorporated with a capital stock of $5,000. ——Drs. W. William Oblesby, and Best, Cottage Grove, are to establish a hospital at Drain.——St. Mary's Hospital, Albany, established by the Sisters of Charity of San Francisco in the Father Metayer mansion, with accommodations for twenty patients, will be opened September 1.——The new hospital at Milton was opened July 30, with appropriate ceremonies.

## PENNSYLVANIA.

**Personal.**—Dr. Daniel B. D. Beaver, of Reading, sailed for Europe August 18.

**School Teachers Vaccinated.**—The Red Lion School Board has decided that all teachers employed in the borough schools must be successfully vaccinated before the opening of the public schools in September.

**Typhoid at Pottsville.**—Several cases of typhoid fever have been reported in Fishback, a suburb of Pottsville, and an investigation instituted by the State Department of Health to discover the origin of the infection found it in the water supply.

**Site Chosen for Asylum.**—The commission for the erection of the Pennsylvania State Institution for the Care and Treatment of the Criminal Insane, have decided on the site at Fairview, Wayne County. This land, comprising 625 acres, 2,000 feet above the sea level, was offered to the commission by the Delaware and Hudson Railroad Company, for $5, the cost of a deed. This is a saving to the state of $9,995 out of an appropriation of $10,000. The commission has the sum of $150,000 toward the erection of the buildings.

**Restrained from Practice.**—In a decree handed down by Judge Doty, Edward Barnes, Monessen, is restrained from practicing medicine in Westmoreland County. The Medical Association of Monessen made an investigation on a petition presented to it alleging that Barnes had never been a regular practitioner and that he had served a sentence in the state penitentiary for arson. The commissioner who was appointed to take the testimony recommended that Barnes' registration be set aside. It is understood that Barnes is now in Newcastle.

**Societies Meet.**—The Northwestern Medical Society held its fourth annual meeting at Warren, July 10. The following officers were elected: President, Dr. Morris S. Guth, Warren; vice-presidents, Drs. William A. Nicholson, Franklin; George B. Kalb, Erie; and Thomas L. Kane, Kane; secretary, Dr. James R. Durham, Warren; treasurer, Dr. Charles W. Schmehl, Warren.——The Lehigh Valley Medical Society, at its annual session at Easton, elected the following officers: Dr. Charles McIntyre, Easton, president; Dr. George W. Guthrie, Wilkesbarre. A. F. Myers, Blooming Glen, John H. Wilson, Bethlehem, and Obadiah H. Sproul, Flemington, N. J., vice-presidents; Dr. Clinton J. Kistler, Lehighton, secretary; Dr. William

P. Walker, South Bethlehem, assistant secretary; and Dr. Albert A. Seers, Bangor, treasurer.——At the annual meeting of the Montour County Medical Society, the following officers were elected: President, Dr. William H. Krickburn; vice-presidents, Drs. George A. Stock, Robert S. Patten; secretary and reporter, Dr. Cameron Schultz; corresponding secretary, Dr. Ida M. Ashenhurst; treasurer, Dr. Philip C. Newbaker; and censors, Drs. Philip C. Newbaker, Hugh B. Meredith and Edwin A. Curry, all of Danville.

### Philadelphia.

**Vital Statistics for July.**—The report of the division of vital statistics shows that there were reported 2,786 deaths, 2,672 births, and 1,470 marriages during July.

**Personal.**—Dr. John W. Luther sailed for Europe August 18. ——Dr. and Mrs. Lewis H. Adler, Jr., have returned home after an extensive tour of the Northwest and Alaska.——Dr. Frederick P. Henry has sailed for Europe.

**Public Baths Popular.**—The hot weather in the early part of last week resulted in the largest attendance of the season at the public baths maintained by the city. The total number of bathers in the week were 677,842, of which 144,313 were men, 7,110 women, 502,652 boys, and 23,767 girls.

**Bequests.**—By the will of the late Abraham Reinheimer, contingent on the death of two brothers, $2,500 is to be distributed as follows: One-third to the Jewish Hospital, one-third to the Jewish Foster Home, one-sixth to the Jewish Maternity Association, and one-sixth to the Young Women's Union.

**Medical Inspection for July.**—The report of the Division of Medical Inspection of the Bureau of Health for July shows that for the month all inspections made, excluding schools, were 3,002; 355 fumigations were ordered, 148 cultures taken, 16 examined for special diagnosis. There were 89 injections of antitoxin made, and 151 vaccinations performed.

**Bacteriologic Laboratory Report.**—The report of the bacteriologic laboratory of the Bureau of Health for July shows that 666 cultures were examined for diphtheria bacilli, and that 426 specimens of suspected typhoid blood were examined. There were also examined 655 specimens of milk, and 100 specimens of sputum; 1,542,500 units of antitoxin were supplied, 10 disinfection tests were made, and 94 analyses were performed.

**Increased Accommodations for Blockley.**—Director Coplin of the Department of Public Health and Charities opened bids for beds, bedding, plumbing and other necessaries to accommodate 800 additional patients in the Philadelphia Hospital, money for which is to be taken from an appropriation of $126,000 made by council for fitting up the quarters in the Museum Building, to which about 800 paupers have been transferred. Repairs will also be made in the clinic room of the hospital and adjoining grounds.

**Candy-Makers Held.**—At the instance of B. H. Warren, State Dairy and Food Commissioner, twenty candy manufacturers of this city were arrested August 10 on the charge of selling impure candy and held in bail, ranging from $600 to $1,000. The firms were specifically charged with selling glucose, adulterated with sulphur dioxid and other injurious chemicals. Analysis of samples of grape sugar, made by Professor Lowoll, showed the material to contain an amount of sulphur dioxid exceeding the maximum quantity allowed by the German government in the preservation of fruits. It was concluded, therefore, that the substance was injurious to health.

**Insane Patients Increase.**—According to W. M. Late Coplin, director of the Department of Health and Charities, the most recent statistics show that the number of insane patients cared for by the city during the past year has increased 7 per cent. This, it is found, is about the same increase as is found in and reported by other cities of the first class. At present the Philadelphia General Hospital is caring for 1,600 insane patients. The average weekly cost per patient is $2.76; of this amount $1.17 is paid by the city and $1.59 by the state. The report shows an increase of 109 over the preceding year, and the total increase during the past decade, Dr. Coplin states, is 75 per cent. During the past 13 years the increase in this city is about the same as is found in other cities in proportion to its population.

**Health Report.**—The report of the Bureau of Health shows a decrease in the number of deaths from all causes, although the current week's figures are in excess of the same period last year. The total number of deaths for the week were 498, as compared with 519 reported last week, and 438 during the corresponding week of 1905. The principal causes of death were: Typhoid fever 15; whooping-cough, 12; tuberculosis, 57; cancer, 12; apoplexy, 10; heart disease, 31; acute respiratory diseases, 22; diarrhea, 107; cirrhosis of liver, 6; appendicitis, 4; Bright's disease, 26; premature birth, 16; debility, 22; old age, 5; heat, and sunstroke, 8; traumatism, 12; and marasmus, 9. There were 189 cases of contagious disease reported, with 19 deaths, as compared with 154 cases and 21 deaths the preceding week.

**Hospital Report.**—During July 76 patients were admitted to the Methodist Episcopal Hospital. In the dispensary there were treated the following cases: Medical, 57; surgical, 533; gynecological, 9; eye, 87; ear, 27; nose and throat, 37; skin, 38; orthopedic, 7; and pediatric, 23. The total number of patients treated was 818; total visits to the dispensary, 3,271; recent accidents, 363; patrol cases, 8; and ambulance calls, 22. ——During July 56 patients were admitted to the Mount Sinai Hospital, which with the 26 patients under treatment at the beginning of the month, made a total of 82 treated. There were 37 discharged cured, 5 improved, 4 not improved, 1 left without permission, and 5 died, leaving 30 patients under treatment at the end of the month. In the out-patient department 3,837 visits were paid, 1,407 of this number being new patients; 260 of the new patients were medical, 444 surgical, 144 eye, 75 nose, throat and ear, 237 children, 73 skin, 24 nervous diseases, and 48 gynecological; 466 cases were treated in the emergency ward, 39 being patrol cases and one ambulance case.

### WISCONSIN.

**Goes Free.**—Dr. George T. Dawley, New London, who has been held under bonds on the charge of having performed a criminal operation, was discharged at the hearing August 1.

**New Officers.**—At a meeting of the Second District Medical Society, held at Kenosha, August 16, Dr. Wiliam A. Fulton, Burlington, was elected president; Drs. William R. Cheever, Kenosha, and George H. Young, Elkhorn, vice-presidents and Dr. J. Russell Eastman, Kenosha, secretary. The next meeting of the society will be held in Burlington.

**Personal.**—Dr. Alexander Kremers, house physician at the Johnstone Emergency Hospital, Milwaukee, has resigned, and Dr. Oscar Lotz has been appointed temporarily in his place.—— Dr. John A. Rice, Merton, is reported to be seriously ill at his home.——Dr. Gustav A. Hipke, Milwaukee, has been appointed obstetrician of the Milwaukee Maternity Hospital.——Dr. Horace E. Mann, Marinette, has disposed of his interest in the Menominee River Hospital.

**Rodermund Again.**—Dr. M. J. Rodermund, formerly of Appleton, who received considerable notoriety five years ago on account of his spectacular attempt to prove that smallpox was not contagious, has reopened his "campaign of education," and has written to the Health Commissioner of Milwaukee asking that the city take immediate steps to get the present health laws repealed so that vaccination and quarantine would no longer be required. The health commissioner, very properly, has referred his communication to the editor of the official journal of the Wisconsin State Medical Society.

### GENERAL.

**Association of Seaboard Air-Line Railway Surgeons.**—More than a hundred members of this association attended the annual session in Savannah, July 13 and 14. The following officers were elected: President, Dr. William A. Monroe, Sanford, N. C.; vice-presidents, Drs. James G. Wallace, Dade City, Fla., Hillory M. Wilder, Charlotte, N. C., and Everard H. Richardson, Atlanta, Ga.; secretary and treasurer, Dr. Jarrett W. Palmer, Ailey, Ga. (reëlected), and member of the executive committee, Dr. John H. Miller, Cross Hill, S. C. The 1907 meeting will be held at the Jamestown (Va.) Exposition at a date to be decided later.

**Back Numbers of The Journal Wanted.**—The entire editions of THE JOURNAL for July 14 and July 21 have been exhausted, and it would be a favor if any who do not wish to preserve their copies will send them to the American Medical Association, 103 Dearborn avenue, Chicago. To those who wish it, we will send another copy in exchange or will refund 10 cents for each copy sent. The name and the address of the sender should be on the wrapper.

**Ophthalmologists To Meet.**—The eleventh annual meeting of the Academy of Ophthalmology and Oto-Laryngology will be held at the Oakland Hotel, St. Clair, Mich. (fifty miles from Detroit), August 30 to September 1, under the presidency of Dr. Casey A. Wood, Chicago. The subjects on the program include lingual thyroids, various uses of paraffin, the uselessness of the spray and the electric cautery for the rhinologist, how to obtain reliable replies by letter from patients, maxillary sinus operations, middle-ear suppuration, oral and laryngeal

tuberculosis, cleft palate, tonsilectomy, massage and electricity in atrophy of the optic nerve, eyestrain and crime, cataract extraction, etc. Some addresses will be given by visitors from England who are in this country to attend the British Medical Association meeting this week. Dr. Eugene Smith, Detroit, is chairman of the committee on arrangements.

**Mississippi Valley Meeting.**—The next meeting of the Mississippi Valley Medical Association will be held at Hot Springs, Ark., November 6-8, under the presidency of Dr. J. H. Carstens, Detroit. The annual address in medicine will be delivered by Dr. Frank Parsons Norbury, Jacksonville, Ill., on "Clinical Psychology," and the address on surgery by Dr. Florus F. Lawrence, Columbus, Ohio, on "Surgical Principles and Theories." The preliminary program shows an excellent series of papers on a wide variety of practical subjects by men from all parts of the Mississippi Valley. Communications should be addressed to the secretary, Dr. Henry E. Tuley, 111 West Kentucky street, Louisville, Ky.

## CANADA.

**Personal.**—Dr. George A. Peters, professor of surgery in the University of Toronto and colonel of the Toronto Light Horse Brigade, is in England, where his recently invented self-recording target is attracting much attention from military experts.

**Novia Scotia Society Meeting.**—The fifty-third annual meeting of the Medical Society of Nova Scotia was held at Lunenburg, July 3 and 4. The following officers were elected for the ensuing year: President, Dr. J. B. Black, M.P., Windsor; vice-president, Dr. J. A. Sponagle, Middleton; second vice-president, Dr. W. H. McDonald, Rose Bay; secretary-treasurer, Dr. J. R. Corston, Halifax.

**British Columbia Association Meets.**—The seventh annual meeting of the British Columbia Medical Association was held in New Westminister, August 1 and 2. The attendance was representative from all over the province. The following were the officers elected: President, Dr. R. L. Fraser, Victoria; vice-president, Dr. J. M. Pearson, Vancouver; secretary, Dr. R. Eden Walker, New Westminister; treasurer, Dr. J. D. Helmcken, Victoria. It was decided to meet in Victoria in 1907.

## BRITISH MEDICAL ASSOCIATION.

*(From Our Regular Correspondent.)*

As we go to press a great gathering of medical men is taking place in Toronto. The annual meeting of the British Medical Association is this year held there. Mr. Guy Elliston, secretary of the British Medical Association, who arrived in that city August 10, felt that conditions indicated that there would be held one of the best meetings in the history of the organization. Certainly the indications were that it would largely outstrip the Montreal meeting, when the organization before met in Canada. Dr. Dawson Williams, editor of the *British Medical Journal*, accompanied by a staff of stenographers, arrived in Toronto last week to take charge of the daily publication of the proceedings. A very fine and elaborate exhibit of instruments, pharmaceuticals, etc., was arranged under charge of Dr. Arthur Jukes Johnson. This was in the main building of Toronto University in the Queen's Park, and here also were located the offices of the secretary, treasurer, etc. The general information bureau was also located on the main floor of the building near the entrance. The president of the association, Dr. George Cooper Franklin, will be the guest of Dr. Arthur Jukes Johnson while in Toronto, they having been college mates together many years ago. Sir Victor and Lady Horsley are to be the guests of Dr. H. A. Bruce. There is an unusually large attendance of physicians from the United States. THE JOURNAL has several official representatives there and will publish a full report. As we outlined a few weeks ago, physicians from the United States have almost the lion's share of representation in the scientific proceedings, as the program of nearly every section shows. This is an unusual opportunity, nevertheless, to taste the particular British flavor which the meeting will have, and to compare its various aspects with those of the medical gatherings on this side of the line.

## FOREIGN.

**Swedish Committee for Cancer Research.**—The Swedish Medical Association (*Svenska Läkaresällskapet*) has appointed a committee to make a special study of all matters concerning cancer. Prof. J. Berg of Stockholm has been made chairman.

**Prizes for Antimalarial Measures.**—The Italian government has given prizes of $100 each to five large landed proprietors who have taken pains to have the dwellings of their laborers thoroughly screened against mosquitoes. The list includes Prince Borghese and Countess Lecca.

**New Edition of the German Pharmacopeia.**—The German authorities have undertaken the revision of the Pharmacopeia and appeal to all interested to offer suggestions for the new edition. Communications should be sent to President Bumm of the Imperial Board of Health, Berlin.

**Physician Appointed Warden of Penitentiary in Germany.**—The physician hitherto in charge of the insane department of the penitentiary at Münster, Dr. Pollitz, has recently been appointed warden of the penitentiary at Düsseldorf, the first time in Prussia, it is said, that a medical man has been appointed to a post of this kind.

**French Congress of Surgery.**—The nineteenth annual congress of the French Société de Chirurgie is to be held at Paris, opening October 1. Three questions have been appointed for discussion: "Surgery of the Nerve Trunks," "Ectopia of the Testicles and Its Complications," and "Routes and Means of Access to the Thorax from the Operative Standpoint."

**Protection of Medical Experts in Judicial Debates.**—A recent decision of a Paris court declares that medical experts summoned by the court are "citizens charged with a public service," and as such come under the special protection of the law. The court condemned to fifteen days in prison an individual convicted of insulting the experts in a recent case before the Court of Appeals.

**Degrees Conferred at Greifswald.**—On the occasion of its four hundred and fiftieth anniversary, the university of Greifswald conferred honorary medical degrees on Dr. W. W. Keen, Philadelphia; H. Snellen, the Utrecht ophthalmologist; and E. Roux, director of the Pasteur Institute, Paris. An honorary degree in the department of philosophy was also conferred on Krehl of Strasburg. Other details of the celebration were mentioned recently on page 519.

**Course in Practical Disinfection.**—The authorities in Bavaria are much gratified with the success of a special course of lectures and demonstrations given this summer at Erlangen for physicians and others interested in the practical application of disinfection for houses, halls, etc. Twenty-seven persons took the course, including three physicians. The lectures were delivered by Professors Heim and Weichardt. Kirstein's quiz "Guide for Disinfectors" was recommended as the manual for study.

**Medical Advertising in a Rhine Province.**—The medical society at Metz has exerted influence to such effect that the governor of the Province of Lothringen or Lorraine has issued a decree prohibiting all public advertising or recommending of treatment of patients without a personal examination, the so-called distance treatment, and also of all advertising of articles, measures, contrivances or methods designed to serve in the prevention, cure or mitigation of disease in man and animals. At the same time all advertisements relating to sexual matters are forbidden. The *Münch. med. Wochschr.* for August 7 gives the details of the new decree.

**Italian Congress of Internal Medicine.**—The sixteenth congress of internal medicine will be held at Rome in October. The subjects on the order of the day are "Arteriosclerosis," with addresses by Riva of Parma and Devoto of Pavia; "Affections Resembling Typhoid and Malta Fever," addresses by Gabbi of Messina and Lucatello of Padua, and "Arthritism," to be presented by Castellino of Naples. The committee of organization has issued an appeal to all the medical schools throughout the country asking them to inaugurate research along the lines of these suggested topics, hoping that a large and valuable national contribution may thus be secured for the study of these subjects.

**Unification of Formulæ for Heroic Drugs.**—The *Semaine Méd.* states that eight countries have agreed to accept uniform formulæ for the preparation of the heroic drugs and have notified the Belgian government to that effect. The list includes France, Germany, Great Britain, Holland, Switzerland, Greece and Luxemburg. The original resolution has been amended to allow the formulæ to be modified to keep pace with the progress of medical and pharmaceutical science. It is hoped that this modification will enable all the powers to accept the unified standards. Great Britain, in expressing its willingness to sign the agreement, stipulated that each of its colonial possessions is to sign, suggest modifications or reject, independently of the mother country.

**German Police Supervision of Artificial Mineral Waters.**—Recent regulations of the police district of Giessen, Grand Duchy of Hesse, Germany, according to the *Apotheker-Zeitung*,

No. 59, 1906, provide for police supervision of the factory and springs from which artificial mineral waters are to be made, for official testing of the chemicals and apparatus, and new tests whenever changes or extensions of the business are to be made. Tests must be made at least once a year. No material injurious to health must be introduced into the water by the chemicals or apparatus, and no lead or untinned copper pipes or vessels shall be used. The cost of regular inspection is borne by the community, but extraordinary inspection and tests must be paid for by the manufacturers. The manufacturer can demand a free certificate of the examinations. The provisions of the regulations are enforced by a fine of $7.50.

**Successors to Guyon and Brouardel at Paris.**—J. C. F. Guyon, the famous French authority on the affections of the genito-urinary organs, was born on the Ile de la Réunion, in the Indian Ocean, in 1831, and has thus reached the age limit, and is compelled to resign his professorship. Besides publishing an atlas of affections of the urinary passages and various collections of clinical lectures, etc., he has long issued the *Annales d. mal. d. organes génito-urinaires*, a semi-monthly journal and review. He is to be succeeded by his former assistant, Joaquin Albarran, who is also a native of a tropical island, Cuba. His works on tumors of the bladder and tumors of the kidney have won prizes offered by the Académie des Sciences, etc., and numerous articles have appeared from his pen since his first extensive work on the "Spontaneous Cure of Carcinoma," in 1883. Professor Thoinot, an eminent authority in legal medicine, has been appointed to the chair of this specialty left vacant by the death of Brouardel.

**Experimental Inoculation of Man with Syphilis.**—On page 1,779 of the last volume, June 9, 1906, THE JOURNAL described Metchnikoff's successful therapeutic prevention of syphilitic infection of monkeys and of a senior in the Paris Medical School, who volunteered for the test, all being inoculated with virulent human material. One hour afterward a salve of one part calomel to three parts lanolin was rubbed into the site of the inoculation for eight minutes. The control animals all developed syphilis, but no traces have appeared on the calomel-treated man or monkeys. The young man is a descendant of Maisonneuve, the famous French surgeon, 1809-1897, and bears the same name. His syphilis experiences form the subject of his thesis, recently handed in. The Paris papers have written up Maisonneuve and his thesis, reproducing his portrait and expatiating on his heroism. Metchnikoff has permitted this early publicity given to the matter. Professors Gaucher and Roger have taken a most decided public stand against generalizing from a single case, warning against the evils liable to follow if the public is lulled into a false security in regard to syphilitic infection before the fact of the possibility of therapeutic prophylaxis is scientifically and definitely established.

**Quackery in Germany.**—In the *Deutsche Revue* for July (abst. in *Apotheker-Zeitung*, No. 59, 1906), E. Roth gives an array of statistics regarding the growth of quackery in Germany which are very interesting. In 1879 there were in Prussia, with the exception of Berlin, 269 quacks; in 1887, 389; and in 1898, 1,200. In 1876 the proportion of quacks to physicians was 1 to 24; in 1898, 1 to 11. In the capital the proportion in 1879 was 1 to 34; in 1898, 1 to 5. In this enumeration the druggists, midwives, etc., are not included, some of whom give medical advice in an illegitimate way. The circles from which the quacks of Berlin are recruited, according to the statements of Beerwald, are also characteristic. Of 124 men who had announced their occupation as healer, 10 per cent. were laborers, 20 per cent. artisans, 46 per cent. came from occupations concerned with trade and commerce, and only 24 per cent could be credited with more than a primary education. In regard to the female quacks, 58 per cent. were formerly servant girls, 24 per cent. confectioners, 10 per cent. working women 5 per cent. nurses, and 2 per cent. had no occupation. While in the last twenty years the population of Berlin has increased about 61 per cent. quackery boasts a growth of 1,600 per cent. These figures should be taken to heart, should be communicated to others, and a reform inaugurated. The following figures also throw a sidelight on quackery. Of all those engaged in treating disease who carry on their business without medical training, not less than 16.6 per cent. had been previously prosecuted in the courts and fined, indeed, according to Magnus these figures rise in some districts of Berlin to 33 1/3 per cent. Quackery had for its support in 1903 already 38 periodicals, while the *Hygienische Blätter*, the official organ of the German Society for the Repression of Quackery was issued first in 1904, although this antiquackery journal also had certain predecessors. It was described in THE JOURNAL recently on page 453 of the last volume, with the aims and work of the society.

**French Congress of Alienists and Neurologists.**—The sixteenth annual congress was held at Lille during the first week in August. The official records are published in the *Archives de Neurologie*, but a rather full report has already appeared in the *Semaine Médicale* of August 8. The principal subjects discussed were "The Blood in the Insane," "The Senile Brain," "The Responsibility of Hysterics," "Relations Between Trauma and General Paralysis," and "The Grave Prognostic Significance of the Lympho-Polynucleosis in the Cerebrospinal Fluid in Acute Ascending Spinal Paralysis." Dide of Rennes and Régis of Bordeaux, after describing their cytologic, bacteriologic and experimental researches on the blood of insane patients, come to the conclusion that the function of defense on the part of the blood is materially disturbed in the insane, and in cases of acute or subacute confusional psychoses, such as dementia præcox, general paralysis, etc. This disturbance has considerable pathogenic importance, but it does not seem to be permanent in the majority of cases. It is possible that a severe and protracted intercurrent infection may rearouse this defensive function. They refer to the improvement and even the cures realized by certain physicians who have not hesitated to inject insane patients with attenuated virus for this purpose. Régis advises comparative study of the blood and urine as affording instructive data. Sabrazés of Bordeaux does not believe that nervous disorders affect the composition of the blood to any extent when they are once established. He is convinced that the nerve centers suffice for themselves in the defense against toxi-infections. The leucocytes do not interfere except in certain infections, such as suppurative meningitis, abscess, etc. Several members told of invariably negative findings in examination of the liver, nerve centers, meninges, and blood of syphilitics in the search for the *Treponema pallidum*. Léri remarked in regard to the senile brain that senility and old age are by no means synonymous terms. Also that different organs and different parts of the same organ in the same individual may show senile changes varying in degree. He styles senility "the final outcome of all the exogenous and endogenous intoxications which have marked the course of the individual's existence." Anglade regards the nerve cell and the neuroglia cell as sisters at war throughout life. Morbid conditions diminish the resisting powers of the nerve cells while they exalt the activity of the neuroglia cell. The former reacts by dying, the latter by proliferating. It is interesting to see how in the end the neuroglia finally triumphs, with the help of all the causes which make for senility. In the decadent brain one element seems endowed with inexhaustible vitality, and this is the neuroglia. Grasset of Montpellier called attention to the preservation of the ability for voluntary movements in patients with cerebral paralysis from sclerosis who drag their feet along the ground, apparently incapable of a better gait, tripping at the least irregularity in the ground. When ordered to lift their thigh up high they find that they can do it easily and well. By taking each joint separately in this way it can be seen that the power of voluntary movement is well retained. The trouble seems to be in the motor automatism, the involuntary mechanism, while the power of voluntary movements is retained to a surprising extent. This distinguishes such cases from those of spinal paraplegia and bilateral cerebral hemiplegia. Meige recommends training such patients in voluntary movements as an effectual means to improve their gait. The discussion of the responsibility of hysterics elicited the usual conflicting views.

## LONDON LETTER.

*(From Our Regular Correspondent.)*

LONDON, Aug. 11, 1906.

### Precautions Against the Spread of Diphtheria in Schools.

The London County Council has adopted a recommendation from the education committee to the effect that during the presence of diphtheria in any district the committee should be authorized to refuse to readmit to school children excluded on account of diphtheria or sore throat until they have obtained a medical certificate of freedom from infection based on a bacteriologic examination. This certificate will be accepted either from general practitioners or from health officers.

### Industrial Accidents.

The annual report of the chief inspector of factories has just been issued. It shows that 100,609 accidents occurred during the year 1905, of which 1,063 proved fatal. The number of cases of lead poisoning was 592, approximately the same as in the previous year. There were 59 cases of anthrax, an in-

crease of 9 on the previous year. The mortality rate among these was also increased, 16 being fatal, against 10 in 1904. Probably this was due to 7 of the anthrax cases being of the internal variety instead of 1 in the previous year.

### Typhoid Fever Due to Shellfish.

Dr. Collingridge, health officer for the City of London, has reported an outbreak of typhoid fever due to cockles. On June 29 he received information of a report of an outbreak of typhoid fever in West Ham. In 52 cases reported 24 of the patients had eaten cockles a short time before the attack. The majority of the cockles were purchased from a dealer at Billingsgate, who had obtained his supplies from Leigh-on-Sea. Between June 28 and 30, six samples of cooked cockles obtained from this source were submitted to Dr. Klein, the city bacteriologist, who examined them to determine whether or not they contained living organisms, which, like the *Bacillus proteus*, *Bacillus coli communis* and streptococci are killed by temperatures of from 154 to 158 F., and whether or not they contained living bacilli of the Gärtner typhoid group. In cultures made from the stomach of the fish, colonies of *Bacillus coli communis* and of streptococci were found in every case, and in two cases also the *Bacillus proteus*. One sample yielded the *Bacillus Gärtner*, or a microbe indistinguishable from it. Dr. Klein concluded that none of the six samples had been sufficiently heated and that they were therefore unsafe. The dealers were at once notified to discontinue the sale of cockles from Leigh-on-Sea, and the fishermen to refrain from sending any more to the market. So long ago as December, 1903, cockles from Leigh-on-Sea were condemned on account of sewage contamination, and it was determined they should be allowed on the market only on the understanding that they were efficiently cooked (raised to a temperature of 212 F. for three and one-half minutes). As it is now found that the fishermen can not be trusted to take this precaution, the corporation of London has absolutely prohibited the sale of cockles from Leigh-on-Sea in the market. As previously reported in THE JOURNAL, both cockles and oysters obtained from the estuary of the Thames have given rise to outbreaks of typhoid fever. The whole estuary is polluted with sewage. The facts have been reported to the local government board in support of the necessity for the long-delayed legislation for dealing with shellfish.

### The Official Nomenclature of Disease.

The special committee of the Royal College of Physicians, appointed in 1902 to revise the nomenclature of disease, has presented its report, accompanied by copies of the fourth edition of the "Nomenclature of Diseases." The first edition was published in 1869 under the presidency of Sir Thomas Watson. The book is the standard work of reference authority on all questions of nomenclature, and physicians are directed by the registrar general to follow it in making returns as to the cause of death. The present edition has been ably edited by Dr. J. A. Omerod. The following are some of the most important changes: The enumeration of "Morbid States and Processes," which preceded the general classification of diseases, has been relegated to the appendix, since it is not intended to be used in making returns. The section entitled, "General Diseases," has been divided into four groups: (1) Infective diseases; (2) intoxications; (3) general diseases, not included in the two preceding groups; and (4) certain morbid conditions incident to various parts. In the first group pneumonia appears for the first time; formerly it appeared under local diseases. The true nature of epidemic diarrhea is now emphasized by terming it "infective enteritis." The use of the names, "membranous croup" and "membranous laryngitis" as synonyms for laryngeal diphtheria is forbidden, and the term croup is expunged from the list of diseases. The terms "febricula" and "simple continued fever" are omitted and their place is taken by "pyrexia of uncertain origin." The term "puerperal fever" is expunged. Pyemia, septicemia, or septic intoxication in the puerperium must be described as "puerperal pyemia," "puerperal fever," or "puerperal septic intoxication." Under the last term puerperal sparemia is to be included. The directions as regards vaccination in cases of smallpox are minute. In every case the presence or absence of marks of vaccination and their size, number and character are to be noted. Information is to be given as to whether the patient was (1) unvaccinated; (2) vaccinated in infancy only; (3) vaccinated after infancy; (4) vaccinated only after infection with smallpox; and (5) revaccinated. In returning various forms of tuberculosis the terms strumous and scrofulous are no longer to be used. The third group mentioned above includes anemia, cretinism, diabetes mellitus, exophthalmic goiter, gout, myxedema, purpura, rickets, and scurvy. In the fourth group are included malformations, the effects of parasites, poisons and new growths. In the classification of local diseases the use of names signifying symptoms is discouraged wherever it is possible to trace these to their causes. In particular it is recommended that diseases should be returned under such general causes names as "convulsions," "apoplexy," "paralysis," etc., only when their causes are unknown. When the latter are ascertained the case is to be registered under this head of the primary disease, the secondary affection also being specified. In order to facilitate the correct registration of deaths the usual custom is to forward to every physician free of cost a copy of the work.

### Ophthalmological Congress at Oxford.

On July 23, an ophthalmological congress was opened at Oxford; it was organized by Mr. R. W. Doyne, the reader in ophthalmology in the university. Among the foreign guests were Professor Dor, Lyons; Dr. A. Darier, Paris; Dr. Snellen, Utrecht; Dr. A. Antonelli, Paris; Dr. Pergens, Maeyseck; and Dr. Patry, Geneva. Several interesting demonstrations were given. Professor Gotch performed experiments illustrating chromatic aberration of the eye. Dr. Henderson Smith explained the opsonic index. Mr. P. A. Adams showed recent methods of determining the coagulation time of blood in reference to ophthalmic disorders. Mr. M. S. Mayou showed a set of water color drawings illustrative of ocular bacteriology. Mr. J. T. Gradon showed microscopic specimens of several phases of ocular embryology. Dr. Darier demonstrated subconjunctival injections as used by him in the treatment of diseases of the eye. Professor Dor read a paper on "The Treatment of Graves' Disease with Thymus Gland," and Mr. Nettleship one on "Some Hereditary Diseases of the Eye." At the Eye Hospital a demonstration was given chiefly of "Family Diseases of the Eye."

## Correspondence

### Hay-Fever Treatment by Dunbar's Remedies (Pollantin).

ST. PAUL, MINN., Aug. 15, 1906.

*To the Editor:*—In THE JOURNAL, August 4, appears a letter from Dr. Ingals, in which he relates his experience with the Dunbar remedies, and an editorial soliciting correspondence on the subject. I have used pollantin to a considerable extent, and find that while benefit is secured in a limited number of cases, it is without result in the large majority. This failure of pollantin to cure cases uniformly is characteristic of all the other so-called remedies for hay fever that have been tried for decades. It certainly suggests that the empirical search for a specific should be abandoned in favor of investigation into the nature and location of the disease. May there not be some good reason for the failure of pollantin and other remedies in that they have failed to reach the real seat of the trouble? May not the success of the remedy in a few cases be due to the fact that it has by accident, rather than design, penetrated to the structures that are involved in the production of hay fever?

During the past three years I have devoted myself to investigation of the antrum of Highmore, and my experience warrants me in the statement that hay fever is of organic origin, with a basic lesion situated in the antra, and I believe that any treatment which is not directed to removing the inflammation of those cavities will fail to cure hay fever. Treatment of the antra for hay fever has been uniformly successful at my hands. Treatment of the antra in unmistakable hay fever has controlled the seizures in three or six days, and in those cases in which asthma was present, it disappeared simultaneously with the other symptoms. The findings following irrigation of the antrum with a boric-acid solution are: First, a secretion resembling buttermilk, with particles of white curdy substance; second, a serous fluid tinged with milk color. The disappearance of this secretion is followed by complete relief of the symptoms of hay fever, together with those of neurasthenia and asthma. The relation of this secretion to hay fever is demonstrated by the fact that it is not found in the antra of normal persons. This secretion is produced by a secretory inflammation induced in the antrum by the entrance of pollen, dust and other exciting causes of hay fever. My experience teaches me that those suffering from hay fever have a much larger

ostium than normal persons, thus favoring the entrance of pollen and other substances. May we not explain the presence of hay fever in some and its absence in others by the varying size of the maxillary ostium? It is impossible in the limits of a letter to do more than to hint at the nature, locus morbi and treatment of the disease, but in a report now in preparation the pathologic, anatomic and therapeutic facts of antral disease will be presented. The object of this communication is solely to endeavor to explain why pollantin and other so-called remedies fail to cure the distressing conditions, and to suggest that we have heretofore been directing our efforts to the wrong anatomic structures. JACOB E. SCHADLE.

---

LEMARS, IOWA, Aug. 17, 1906.

*To the Editor:*—I have been very much interested in the recital of the various physicians' experiences in the use of pollantin. This is the third season I have used the serum in treating my hay-fever patients, and my experience with it has been very gratifying. I do not recall a single patient that has not been benefited by its use, and some have told me that they have enjoyed comparative freedom from attacks by using the serum and powder fairly regularly throughout the season. I very much deprecate the container used for the medicine. It is a great nuisance for the physician to be obliged to remove all the advertising matter, etc., before dispensing the serum. Can not these people be induced to put the medicine out in some other form? It seems to me that those containers were made especially for display on the drug-store counter. Some time since I had some correspondence with Fritchie Brothers on this very point, and it was, to say the least, amusing to read their very lame explanations of the reasons for so doing.

F. S. CLARKE.

---

### The Report of the Council on Medical Education.

*To the Editor:*—The recent report of the Council on Medical Education in THE JOURNAL A. M. A., June 16, 1906, page 1853, invites comment and suggestion. I am prompted to indulge in such comment because it seems to me that in this present time, full of great possibilities for advancement in medical education and practice, nothing will promote sure and rapid progress, and the avoidance of missteps, more certainly than a full and free discussion by all who are in any way related to, or interested in, the subject.

The decision of the Council to make its chief function that of co-ordinating the various forces at work among them, the medical schools and their associations, the literary colleges and medical examining boards, can not be too highly commended. It would have been a great mistake at this time to have attempted to force any arbitrary standards by drastic measures, such as the requirement that no physician, who failed to comply with certain standards, should be eligible for membership in the American Medical Association or in any of its constituent bodies. In this growing period of the Association the supreme effort should be to strengthen itself numerically by seeking the allegiance of every physician who is at all worthy of membership, and any action which would interfere with this movement would be unwise. In later years more radical measures and rigid standards may be indicated and may be possible of enforcement.

Most commendable also is the decision of the Council to carry on the work inaugurated by THE JOURNAL some years ago of gathering information in reference to the medical schools, the medical practice acts and state board rulings, and of the results of the examinations for licensure in the several states, etc. It seems to me, however, that in reference to the statistics of the examinations for licensure the fact should be again emphasized that these statistics must not be interpreted too literally, nor can the results be accepted as furnishing an accurate criterion of the relative merit of the several colleges. No one who is at all familiar with the character and the work of these schools can fail to discover that their relative rank, as they appear in the tables presented by the Council, bears little relation to their relative actual merit as teaching institutions. Some of the schools listed in the second group (showing from 10 to 20 per cent. of failures) or even the third group (over 20 per cent. of failures), are certainly not inferior to some of those which appear in Group I (having less than 10 per cent. of failures).

The reason for this is to be found in the wide discrepancy between the character of the examinations by the state boards—purely written tests as they are, almost without exception—and the practical, objective methods of teaching in vogue in the better medical colleges. For a quarter of a century now, there has been a gradual and steadily growing departure from the purely didactic and "cram" methods of instruction toward the methods which develop in the student the power to see, to hear, to feel, to do and to think, by the actual exercise of his faculties in the laboratory, the practical course and the clinic. While this movement has been going on, the character of the examinations has changed not at all, and they are at present so far removed from the modern methods of education as to afford an entirely inadequate and unfair test of the student's accomplishments or of his ability to practice his profession. It is difficult to understand why the examining boards have been so slow to realize this fact when one remembers that really effective and rational methods of examination for licensure have been practiced in all foreign countries for many years. Possibly the explanation is partly to be found in the personnel of the examining boards, which have been so largely composed of men with no experience or training as teachers or examiners. Certainly, it seems to me, that so long as the state board examinations are conducted on lines so antiquated and so foreign to the modern methods of education in the high-grade medical schools, just so long will the results of these examinations be no fair criterion of the merits of these schools or of their graduates.

The most important items of the report of the Council are the recommendations: 1, For an ideal standard of requirements, and 2, for a fixed, uniform medical curriculum. The ideal standard proposed by the committee comprises six years of study between graduation from a four-year high school and the reception of the degree of M.D. This arrangement proposes the addition of one year antecedent to one year subsequent to the present four-year medical curriculum, the antecedent year to be devoted to physics, chemistry, biology and German in preparation for the purely medical studies, while the closing year shall consist of practical work in a hospital or dispensary.

Few medical educators will dissent from the opinion that the time has come when a longer period than is now required must be given to preparation for the practice of medicine. The year of practical hospital training, already instituted by at least one American college, is of the utmost value, but not so indispensable as the provision for a more adequate preliminary training. Opinions will differ as to the sufficiency of one year of preparatory work beyond the high school, as requirement is already exacted in some colleges of two, three or four years, but all will welcome the addition of even one year of such work, provided, however, that it be done under such conditions and by such men as to insure its efficiency. And this is the point on which I wish to comment. To my mind the Council has made a grievous mistake in specifying that this preparatory year *may* be done in the medical school, *or* in a literary or scientific college. The failure to insist that these branches of general learning (for such physics, chemistry, biology and German surely are), must be taken in a college or university, where alone, with very rare exceptions in this country, they are properly taught, results in making this recommendation of the Council a step backward rather than forward, because it will tend still further to defer that time, which I think we all realize should be the goal of our desires, when every medical graduate will be a broadly cultured, a college-bred man. What will be the actual working of this scheme to permit the medical school to add another year to its curriculum, and to exact another annual tuition fee from its students, may easily be foreseen by all who know the history of similar attempts of medical schools in former years to give instruction in non-medical branches. It is true that in Germany the gymnasium graduate enters the medical school with little or no scientific training—or did so until

recently, but it is to be remembered that the situation in that country is wholly different from our own, for every medical school is an intimate and integral part of a university and the instruction in physics, chemistry and biology is in the hands of the university professors of these branches. The more strictly our own medical—purely professional—schools, devote themselves to the teaching of the purely medical branches, and the more completely they rely on institutions of general learning to do the preparatory work which belongs to them, the better will be the results secured. We may be sure that if the order for this preparatory year is promulgated by the examining boards as it is recommended by the Council, the very first institutions in the field with a blatant advertisement of their superior facilities for giving such instruction will be the most poorly equipped medical colleges, and those of the lowest standards. So far from operating to suppress the cheaper schools, the extinction of which is so greatly to be desired, the effect will be to give them an additional hold on their students and to enable them to secure fees for another year of relatively inexpensive instruction. It is very much to be hoped that before the action of the National Confederation of Examining Boards requiring this preparatory year goes into effect in 1910, it will be so amended as to specify that this work must be taken in a literary or scientific college. It is hard to understand why there should be so much eagerness on the part of some to eliminate the literary and scientific schools from our scheme of medical education. The medical schools and the medical profession need their coöperation quite as much as they need our support, and no ideal scheme of medical education can be constructed in this country which fails to include them as an integral part of the system. It is true that there are poor and spurious colleges, as there are cheap medical schools, though the proportion is not so large, but these can be easily discovered and designated. The council should reckon as one of its most important functions such an investigation and classification of the literary and scientific colleges.

I had intended to comment on the so-called ideal curriculum which has been proposed by the council, as well as on other fixed curricula which have been laid down, among them that of the Michigan State Board, and of the Association of American Medical Colleges, but I have already trespassed too much on your space for one communication and must reserve this item for a later discussion. JOHN M. DODSON.

### Wants to Arrest "Patent Medicine" Man.

ALBION, MICH., Aug. 20, 1906.

*To the Editor:*—I want information of one W. Thompson, "the oil man." He was arrested here for practicing medicine without a license, gave bail for appearance at hearing, and did not appear. He has since been in Ypsilanti, Mich., and Findlay, Ohio, and was last heard from in Windsor, Ont. He travels with four comedians, sells from a wagon, and is a very smooth talker, of dark complexion, straight black hair, rather below medium height, about 40 years of age. He sells a soap, a blood medicine, and "Egyptian Oilio" (which is said to be colored gasoline), claims to represent a quarter-million dollar company, and has five diplomas. The sheriff is prepared to get him anywhere in the United States. If some physician who believes in protecting the public from swindling impostors will wire me on his appearance in any town we will be duly grateful and do the rest. GEORGE C. HAFFORD.

**A Yellow Peril.**—Under this head J. W. Croskey, in the *Medico-Chirurgical Journal*, May 20, includes trachoma which he says is more prevalent in Japan than in any other country, although it is also common in India and Egypt. In all these countries its spread is favored by religious observances and superstitions such as ablutions with use of a common towel. The danger is shown by the fact that the proportion of trachoma cases in immigrants at eastern ports is less than one in 1,000, while at western ports it rises to nearly one in 60. Greater care in examination of immigrants and more stringent measures to prevent the spread of this disease are needed.

## *Miscellany*

**Effect of Alkalies and Other Drugs on the Efficiency of Pepsin.**—While the therapeutic inefficiency of pepsin without the simultaneous presence of an acid, preferably hydrochloric acid, has been emphatically stated often enough so that it should be thoroughly understood, this ferment is still frequently prescribed in mixtures containing no acid and in combination with substances which destroy the enzyme, so as to defeat the purpose for which it was intended. Many neutral salts, alkaloidal and other substances have been shown to have a retarding influence on the action of pepsin, while digestion with strong alkali destroys the enzyme altogether. J. F. Tocher has investigated the action of dilute alkalin solutions, as well as that of morphin and bismuth, substances which are often prescribed in mixtures with pepsin. He gives the following conclusions: 1. Solutions of sodium bicarbonate, sodium, potassium and ammonium hydrates when added to solutions of pepsin in the cold have an immediate inhibitory or destructive influence on pepsin, according to the concentration. In ordinary concentrations the effect is to destroy the enzyme immediately. 2. Dilute solutions of caustic alkali immediately destroy the activity of dilute solutions of pepsin. One millimeter (1 c.c.) of decinormal ammonia (0.0017 gm., $NH_3$) is sufficient to destroy the proteolytic power of 5 mgr. of pepsin in 5 mm. (5 c.c.) of water. That is, a 0.1 per cent. solution of pepsin with an alkalinity equal to 0.017 per cent. has no proteolytic power whatever. On acidifying and digesting, the enzyme is found to be destroyed. Pepsin should, therefore, never be prescribed with alkalies. 3. Carbonate of bismuth precipitates pepsin from aqueous solutions; subnitrate of bismuth does not. 4. Compound mixtures containing solution of bismuth, morphin, carmin, etc., should contain no pepsin, since the activity of the enzyme is much retarded by the morphin and is destroyed proportionately to the amount of alkali present in solution.—*Pharmaceutical Journal*, July 28, 1906.

**Ethyl Chlorid.**—J. H. Chaldecott, in the *Clinical Journal* for August, discusses the uses and abuses of this comparatively new anesthetic. It is interesting and somewhat instructive to note that the adoption of this anesthetic in England owes much of its progress to the advertisement of somnoform and that some of the abuses of the drug have been due to the misleading and unduly favorable reports sent out by these manufacturers. Chaldecott, after extensive use of ethyl chlorid, adheres in the main to the conclusions which he published in 1904: 1. It is the best anesthetic known for single-dose cases, viz., those in which anesthesia is induced, the mask removed and the operation performed without any further administration. The statement still holds good for children, but in adults he prefers the nitrous oxid and ethyl chlorid mixture, which he regards as an ideal anesthetic in cases requiring an available anesthesia of from forty seconds to two minutes. 2. It is certainly worthy of an extensive trial in all minor operations. He does not see any advantage in ethyl chlorid after the first few minutes of anesthesia, it being more difficult to secure an even degree of narcosis than with ether or chloroform, and the after-effects of continued administration being practically identical with those of chloroform. 3. It is a safe and rapid means of inducing anesthesia as a preliminary to chloroform. This conclusion must be modified in the light of recent fatalities from the drug, and the ethyl chlorid ether sequence should be substituted for the gas-ether sequence only under circumstances which contraindicate the use of nitrous oxid. 4. Although its effects are transient, it is doubtless a powerful anesthetic and should be carefully administered and the patient properly prepared. The following objections to this anesthetic have been raised and are considered by Chaldecott: 1. Uncertainty of action. This has generally been due to the administration with too much air. 2. Rigidity. This has not been true in the author's experience. 3. After-effects. These have largely been due to imprudent use, and when the drug is properly administered they are very slight. 4. Danger to life. It must be admitted that although the proportion of fatal results is infinitesimal compared

with the number of actual administrations, the drug offers an appreciable mortality and this fact ought to discourage its haphazard administration by dentists who are not qualified medical men and who have had no training in administration of anesthetics.

**Influence of Pregnancy on Deafness.**—Pregnancy, according to W. Milligan, in the *Journal of Laryngology, Rhinology and Otology* for June, may be the occasion of deafness due to vasomotor disturbances, which are transient, passing away after the termination of the pregnancy, or it may cause progressive changes due to the aggravation of pre-existing septic processes in the ear, which extend to the nerves of hearing in consequence of the diminished resistance produced by the toxemia of pregnancy. Simple catarrhal troubles may also be so aggravated that the deafness becomes more pronounced. These changes occurring in successive pregnancies present an unfavorable prognosis, since treatment, either local or general, seems to exercise little influence in retarding the advance of the disease. In consideration of these facts Milligan raises the following queries: (1) The advisability or otherwise of young women already the victims of advanced chronic middle-ear catarrh, purulent or non-purulent, or of otosclerosis, entering into matrimony; (2) if marriage has already taken place and the existing deafness has been materially increased by a first pregnancy, the advisability or otherwise of suggesting means to prevent any further pregnancy, and (3) if in a case of advanced deafness, where previous pregnancies have invariably increased the existing deafness, whether it is advisable or justifiable to induce premature labor. [Premature labor at the seventh to eighth month might be permissible in aggravated cases, but under no circumstances should an abortion necessitating the death of the fetus be considered justifiable for an affection entailing only inconvenience and no serious danger to the life of the mother.—ED.]

**An African Cure for Sleeping Sickness.**—In a letter to the editor of the *Journal of the Royal Army Medical Corps*, Major Smith, R.A.M.C., states that eight years ago, while serving in the Sherbro and Mendi country in Sierra Leone, he noticed many people with scarred necks, and on making inquiry he was told that the glands had been removed by native doctors to prevent or to cure sleeping sickness. The natives informed him that at one time sleeping sickness had been rather frequent in the neighborhood, but that after the people found that removal of the "nuts" or "banga" was efficacious the disease had become rare. Whether the removal of the glands in the earlier stages of the malady could be of service in treatment it is impossible to say, but scientific medicine, Major Smith states, has confirmed the native opinion that enlargement of the glands is an early symptom. He offered about 50 cents a head for the names and whereabouts of patients with sleeping sickness, but was unable to find one till 1901. The man was a creole-negro who had been to the Congo two years previously. Subsequently Major Smith saw two or three cases of sleeping sickness in the colony, but all had a history of having been to Fernando Po, Congo, or elsewhere down the coast. The last case he saw was under Dr. W. Renner in the Colonial Hospital in 1904, and from this he successfully inoculated the common "mango monkey" and a rat with blood which had been for two hours or so in diluting fluid.

**Gold Wire for Sutures in Hernia.**—Siegmund Arkel, Milan (*Medicinische Klinik*, March 18, 1906), calls attention to the use of gold wire for sutures in hernia operations as practiced by Tansini of Pavia. The comparative antiseptic action of gold is shown by a series of experiments *in vitro* and on rabbits by Vecchi (*Il Morgagni*, Nos. 7 and 8, 1905) of which Arkel gives an abstract. Tansini has used this material in 360 hernia operations without a single case of early or late suppuration, and the patients were able to leave the bed by the seventh day. Like results were obtained by Professor Titone at Palermo in 25 cases, and by the surgeons Crosti and Rossi in the general hospital of Milan, in 14 and 40 operations, respectively, in the same rooms and under the same conditions as operations in which silk or catgut had been used and followed by infection. The cost of the gold sutures is not prohibitive, as 50 cm. of the suture weighed only 12 centigrams, and 120 centigrams of gold only costs five lire (about 95 cents). The slightly greater cost over silk or catgut is not worth considering when one takes into account the durability and the lessened danger of infection from handling, etc.

## Marriages

FRANK M. HAGANS, M.D., to Miss Maud Mangas, both of Lincoln, Ill., recently.

JAMES A. MCCRACKEN, M.D., to Miss Mary Snyder, both of Kane, Pa., August 8.

JOHN R. MURNAN, M.D., to Miss Edith Kercheval, both of Covington, Ky., August 14.

FRANCIS J. JONES, M.D., Providence, R. I., to Miss Alice M. Kelley of Boston, August 8.

V. D. FARMER, M.D., Parma, Mich., to Miss Grace Dutcher of Jackson, Mich., August 14.

PATRICK J. SULLIVAN, M.D., to Miss Malvina Moran, both of Muskegon, Mich., August 8.

JOSEPH W. JAUCH, M.D., to Mrs. Mary A. Hotchkiss, both of Los Angeles, Cal., August 7.

KIMSEY C. EVANS, M.D., Edgerton, Ind., to Miss Nellie Brady of Fort Wayne, Ind., August 4.

W. FRANK BELL, M.D., Plain Dealing, La., to Miss Maude Mosby, at Easton, Md., August 8.

STANLEY CASTLE, M.D., Springfield, Ill., to Miss Elsie Mary McDowell of Chicago, August 14.

JAMES CHRISTIANSON, M.D., Alden, Minn., to Miss Maud Brackney, at Washta, Iowa, August 15.

NORMAN CHARLES BLEDSOE, M.D., Bisbee, Ariz., to Miss Marriet Gage of Los Angeles, Cal., August 9.

WILLIAM H. TAYLOR, M.D., Philadelphia, to Miss Anna Evalynn Bullock of New York City, August 1.

CHARLES D. WALL, M.D., Chicago, to Miss Jessie D. Boone of Nashotah, Wis., at Davenport, Iowa, July 18.

JOHN A. ENGLISH EYSTER, M.D., Baltimore, to Miss Mary Elizabeth Adams, at Middleburg, Va., August 8.

HAROLD W. BAKER, M.D., Worthington, Minn., to Mrs. Maxwell Stevenson of New York City, in Worthington recently.

## Deaths

**James Brown McCaw, M.D.** New York University, New York City, 1844; said to have been oldest physician of Richmond, Va.; professor of chemistry in the Medical College of Virginia, 1865, and later professor of practice of medicine, and for twelve years dean of the college and, at the time of his death, chairman of the board of visitors of the institution; a surgeon in the Confederate service during the Civil War, and in charge of the Chimbarazo Hospital, Richmond, in which were treated more than 76,000 patients during the war; editor of the *Virginia Medical Journal* from 1853 to 1861 and of the *Confederate States Medical and Surgical Journal* from 1864 to 1865; a charter member, one of the founders, and some time president of the Medical Society of Virginia, and some time president of the Academy of Medicine and Surgery, Richmond; president of the Richmond Eye and Ear Infirmary; who on his retirement from practice in 1901 was tendered a banquet at which he was presented with a handsome silver loving cup, died at the home of his son-in-law in Richmond, August 13, from senile debility, aged 83. Of six surviving children, two sons, Dr. David McCaw of Richmond and Major Walter D. McCaw, surgeon, U. S. Army (at present librarian and officer in charge of the library of the Surgeon-General's office, having succeeded the late Major Walter Reed in this position in 1903), are members of the medical profession representing the fifth generation of a remarkable line of Virginia physicians.

**Charles Stockton Gauntt, M.D.** Department of Medicine of the University of Pennsylvania, Philadelphia, 1844; the oldest alumnus of the University of Pennsylvania; after graduation a professor at Girard College; later he became a member of the faculty of the Jefferson Medical College; a surgeon during the Civil War, and connected at different times with many institutions as medical instructor, died at his home in Philadelphia, August 16, aged 83 years.

**Daniel S. Ellis, M.D.** College of Physicians and Surgeons, Baltimore, 1870; a member of the Medical Society of Virginia, and surgeon to the Randolph-Macon College, Ashland, Vt., was drowned while crossing a swollen creek near home in Ashland, Ill., in answer to a professional call, August 12, aged 52.

**Charles Edwin Jakeway, M.D.** Toronto University Medical Faculty, 1871; died from asphyxiation at his home in Stanaer, Ont., March 1. While getting hay for his horse at night his lantern exploded, igniting the hay and straw in the loft and smothering him.

**J. W. Ferguson, M.D.** University of Louisville, Medical Department, 1889; a member of the American Medical Association, and a well-known practitioner of Bourbon County, Ky., died at his home near Shawham, August 9, from malignant disease, aged 49.

**W. A. Goode, M.D.** Atlanta (Ga.) Medical College, 1890; a member of the North Carolina Legislature, in 1903, from Cleveland County, died at his home in Shelby, N. C., August 3, after an illness of several weeks, from typhoid fever and nephritis.

**Charles Albert Cochrane, M.D.** Medical School of Maine at Bowdoin College, Brunswick 1856; a member of the Maine Medical Association, died at his home in Winthrop, Maine, from angina pectoris, after an illness of a month, aged 73.

**John Onins Pierce, M.D.** Pennsylvania University of Medicine and Surgery, Philadelphia, 1870; a veteran of the Civil War, died at his home in Milford, Del., July 11, from paresis, after an illness of more than twelve years, aged 63.

**William E. Chamberlin, M.D.** Charity Hospital Medical College, Cleveland, 1870; a veteran of the Civil War, died at his home in Akron, Ohio, August 11, from cerebral hemorrhage, after an illness of seven weeks, aged 65.

**Felix Maslowsky, M.D.** Hospital Medical College Louisville, 1875; a member of the Spencer County (Ind.) Medical Society, died at his home in Mariah Hill, April 6, from dropsy, after an illness of two months, aged 61.

**Melville B. Estes, M.D.** University of California Medical Department, San Francisco, 1888; died at his home in Vallejo, July 9, from lung disease, aggravated by shock due to the San Francisco earthquake, aged 47.

**Samuel Ramsey, M.D.** Cleveland Medical College, 1846; a veteran of the Mexican War, died at his home in Seattle, Wash., May 12, from senile debility, after an invalidism of four years, aged 81.

**Charles Tylden Whaland, M.D.** Maryland Medical College, Baltimore, 1905; of Chestertown, Md., died in the Maryland General Hospital, Baltimore, August 14, from spinal meningitis, aged 22.

**William H. Davis, M.D.** Medical Department of Washington University, St. Louis, 1878; of Bethany, Ill., president of the school board of that town, died in St. Louis, Mo., August 3, aged 51.

**Jerome W. Flanders, M.D.** Miami Medical College, Cincinnati, 1868; a member of the Jefferson County Council, died suddenly at his home in Dupont, Ind., from heart disease, August 11, aged 59.

**William Jacoby, M.D.** Medical Department of Western Reserve University, Cleveland, 1868; of Vernon Center, Minn., died May 31, in St. Joseph's Hospital, Mankato, Minn., aged 88.

**Robert Joseph Brevard, M.D.** New York University, New York City, 1872; twice mayor of Charlotte, died at his home in Charlotte, N. C., after an illness of several weeks, aged 57.

**James Brown Combs, M.D.** Medical College, Cincinnati, 1851; died at the home of his daughter in Washington, Iowa, recently, after a short illness, from cerebral hemorrhage, aged 81.

**Lorenzo D. Bartlett, M.D.** Castleton (Vt.) Medical College, 1862; died at his home in Keokuk, Iowa, August 14, from cerebral hemorrhage, after an illness of four days, aged 81.

**Howard Graham Wetmore, M.D.** College of Physicians and Surgeons in the City of New York, 1879; died at his home in High View, N. Y., April 27.

**William H. Kesla, M.D.** College of Physicians and Surgeons, Baltimore, 1896; died at his home in Austin, Pa., in June, from tuberculosis, aged about 35.

**Lot S. Pennington, M.D.** New York, 1837; died at his home in Sterling, Ill., July 31, from senile debility, after an illness of five years, aged 93.

**Albert S. Hazard, M.D.** State University of Iowa, College of Medicine, Iowa City, 1888; died at his home in La Vita, Colo., June 12.

**Alma L. Rowe, M.D.** Northwestern University Women's Medical School, Chicago, 1893; died at her home in Forest, Miss., May 27.

**R. L. Cooper, M.D.** Jefferson Medical College, Philadelphia, 1852; died at his home in Shelbina, Mo., August 3, aged 80.

**David L. Delk, M.D.** Chattanooga (Tenn.) Medical College, 1897; died at his home in Oakdale, Tenn., August 12.

### DEATH ABROAD.

**A. Vincent, M.D.,** professor of hygiene and president of the cantonal board of health, died at Geneva, July 23. He recently served as vice-president of the international conference for revision of the Geneva Convention.

---

## *Queries and Minor Notes*

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

### THE PHYSICIAN'S LIBRARY AND THE FILING OF CLIPPINGS FROM JOURNALS.

SENECA, N. C., July 23, 1906.

*To the Editor:*—The editorial in THE JOURNAL, June 2, 1906, page 1698, regarding the use of our public libraries by physicians remote from the centers of medical education was timely and worthy of more than passing notice. I believe, however, that you can render the rank and file of the profession an equal service by suggesting the methods of greatest value in searching out and using the material we have at our own door—for instance, suggestions as to purchasing the best books and building one's own library. Again, if you could help the average physician to grasp a tithe of the knowledge which comes almost daily to his desk in the periodicals of more or less value you would render him a service. It is impossible to have all these numerous journals bound as a public library may do, and yet it is often necessary to refer to them. I have found that the average physician has no system whatever to aid him in quickly referring to a journal article a few months or a few years old. If you, or any one else, can furnish a tried and true method for a busy practitioner you will earn his lasting gratitude.

E. A. HINES.

ANSWER.—The standard text-books are landmarks, so to speak, of the state of medical science at the time of their publication. Unfortunately, however, in many departments of medicine they change too rapidly in successive editions, and the up-to-date physician, if he depends on them, is subjected to considerable expense in purchasing the latest and best revised editions. It is only through medical journals that one can keep accurately in step with the progressive science of medicine, and a file of one or two of the leading weeklies, containing, as they nowadays do, not only original articles summarizing the facts known on their subjects, but also abstracts and summaries of the current medical literature of the day, and all elaborately indexed for each volume, is almost indispensable in the physician's library. One can not, however, preserve all the periodical literature that comes to hand, though much of it is certainly deserving of preservation. In the numerous sample copies that every physician receives, there are often articles that he would like to have on hand for ready reference, and the best way for systematically preserving these is a classified series of clipping envelopes which can be improvised at a minimum of expense and very little trouble by any systematic man. If in addition to the clippings, a card index of articles and subjects in which one takes a special interest is kept, even if only on scratch-paper pads, little more will be required. We have known of elaborate papers, reasonably exhaustive in literary references, being prepared from just such memoranda, and there are probably many such. Of course, one can not trust to second-hand references in any really valuable work, though more of that is done than is often admitted, in Europe as well as in this country, as Virchow once pointed out. Such a card index, giving brief statements of the substance and points of interest in the articles referred to, will often be found very convenient. It is much better than trying to keep a commonplace book of the old style, as it is much more easily made without regard to time or place of working, and the cards or slips can be kept in any convenient drawer or box, or perhaps, as well, like the clippings, in labeled envelopes. Such notes can also be made at society meetings, and in libraries where pencil references are generally allowed, on the uniform size scratch-pads and filed away later with very little trouble. We believe that a simple system like this will be found as practical as any other and equally advantageous. We might add a word as to the usefulness of journal clubs. If several physicians residing near each other coöperate, each taking certain journals not subscribed for by the others, and

exchanging among themselves, each keeping and binding those for which he subscribes, a considerable widening of the field of reading and note-taking can be accomplished.

### MICROSCOPES.

NEAL, KAN., Aug. 11, 1906.

*To the Editor:*—Can you recommend any make of microscope that is not too expensive and yet which can be relied on for histology and bacteriology work? Are American microscopes as good as foreign? B. L. HALE, M.D.

ANSWER.—American microscopes—Bausch & Lomb and Spencer—are as good as the more common foreign makes, among which the Leitz microscope is probably most widely used in this country. Bausch & Lomb sell microscopes in Europe, especially France. The best microscope, and also the most expensive, is the Zeiss, which is in great favor with investigators. Any one of the following microscopes will answer fully for the practitioner: Zeiss, Bausch & Lomb, Leitz, Spencer, Reichert. With ordinary care and in a temperate climate a new microscope of any of these makes should last at the very least twenty-five years with only minor repairs. If bought from a reliable agent, so that no fraud of any kind is practiced, which is very rarely possible, such a microscope can be relied on absolutely for histologic and bacteriologic work, provided, of course, that an adequate equipment of objectives is included. Three objectives and two eye-pieces with substage condensers and diaphragm are requisite for satisfactory work in clinical microscopy. Without the oil immersion objective many bacteria are seen only with difficulty, and two dry objectives, one low and one high power, are essential. The Bausch & Lomb microscope BBa is gotten up especially for the practitioner and has the lenses, etc. mentioned. It sells for $75.00 net. Leitz and Spencer have similar instruments, the Spencer at the same price, we believe, as the Bausch & Lomb, the Leitz being a little higher. The Zeiss comes at least 50 per cent. higher. We have given details so freely because the microscope is probably the most expensive single instrument that the practitioner must have and use in order to do himself and his patients justice, and some physicians in starting out may possibly postpone purchasing the microscope because of the impression that it is more expensive and more risky to buy than really is the case. To the modern progressive physician the microscope is as necessary as the stethoscope—and many think they must have various accessories that run into money, but while these may be advantageous, they are not absolutely necessary to enable one to do ordinary clinical work.

### DOSAGE FOR INFANTS.

NEAL, KAN., Aug. 13, 1906.

*To the Editor:*—I notice that in THE JOURNAL, Aug. 11, page 456, some one asks about dosage for infants under one year. My rule is this: Ascertain the weight of the baby and taking 150 pounds as the average weight of an adult, use the child's weight for the numerator and an average adult's weight for the denominator, thus: child's weight, 15 pounds; adult, 150; we have 15/150 = 1/10 of an adult dose. B. L. HALE.

MCCAMMON, IDAHO, Aug. 16, 1906.

*To the Editor:*—In all scientific works on animals the weight of the animal is considered in connection with the dose. I believe in following the same rule in regard to human beings. It is not natural to suppose a man weighing 95 pounds should be given the same dose as one who weighs twice as much; or a large strong child should be given the same dose as a small one, even though they be the same age. Yet this is frequently done when a dose is figured according to Young's rule. I usually consider that the medium dose of a drug is intended for an adult weighing 150 pounds and vary according to the percentage of that weight. Of course one must consider whether a slight or a strong action is required, and must remember the varying effects of certain drugs on children. J. W. ROBINSON, M.D.

## The Public Service

### Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ending August 18, 1906:

Appel, D. M., deputy surgeon-general, detailed for duty as member of examining board for promotion or advancement of medical officers, Army General Hospital, Presidio of San Francisco, Cal., during the temporary absence of Lieut.-Col. George H. Torney, deputy-surgeon-general.

Reed, Howard A., asst.-surgeon, relieved from temporary duty in the Department of California, and will report at once to medical superintendent, Army Transport Service, San Francisco, Cal., for duty on the transport *Logan*.

Smith, Lloyd L., asst.-surgeon, relieved from duty as surgeon, U. S. A., transport *Logan*, and ordered to West Point, N. Y., for duty.

Banister, J. M., deputy-surgeon-general, left Fort Riley, Kans., on 30 days sick leave of absence.

Clayton, J. B., asst.-surgeon, arrived at Camp of Instruction, Fort Riley, Kans.

Usher, F. M. C., asst.-surgeon, left Fort Brady, Mich., en route to Camp of Instruction, Fort Benjamin Harrison, Ind.

Woodson, R. S., surgeon, left Fort McDowell, Cal., en route to Camp of Instruction, American Lake, Wash.

Purnell, H. S., asst.-surgeon, left Camp of Instruction, Islay, Wyo., on leave of absence for 30 days.

Kirby-Smith, R. M., asst.-surgeon, upon arrival at San Francisco, Cal., will report for duty at the Army General Hospital, Presidio of San Francisco, Cal.

Woodall, William P., asst.-surgeon, relieved from duty at Army General Hospital, San Francisco, Cal., and ordered to Camp Mabry, Tex., for duty. Upon the abandoment of Camp Mabry to proceed to Fort Clark, Tex., for duty.

Miller, E. W., asst.-surgeon, relieved from duty at Camp Mabry, Austin, Tex., and from duty at Fort Clark, Tex., and ordered to Fort Riley, Kans., for duty.

O'Connor, R. P., asst.-surgeon, relieved from duty at Army General Hospital, Presidio of San Francisco, Cal., and ordered to Fort Leavenworth, Kans., for duty.

Buck, Carroll D., asst.-surgeon, relieved from duty at Fort Leavenworth, Kans., and ordered to the Army General Hospital, Presidio, San Francisco, Cal., for duty.

Stedman, C. J., asst.-surgeon, upon arrival at Seattle, Wash., will proceed to Camp of Instruction, American Lake, Wash., for duty. Upon abandonment of camp, ordered to Fort Stevens, Ore., for duty.

Connor, C. H., asst.-surgeon, relieved from duty at Fort Stevens, Ore., and ordered to the Army General Hospital, Presidio, San Francisco, Cal., for duty.

Hall, James F., asst.-surgeon, relieved from duty at Army General Hospital, Presidio, San Francisco, Cal., and ordered to Fort Flagler, Wash., for duty.

Persons, E. E., asst.-surgeon, relieved from duty at Fort Flagler, Wash., and ordered to take first available transport sailing from San Francisco, Cal., to Manila, and upon arrival at the last named place to report in person to the commanding general, Philippines Division, for assignment to duty.

Bosley, John R., asst.-surgeon, upon arrival at Seattle, Wash., will proceed to Jefferson Barracks, Mo., for station and duty.

Lewis, W. F., asst.-surgeon, so much of par. 22, S. O. 282, War Department, Dec. 5, 1905, as details him for examiner of recruits is revoked.

Scott, George H., asst.-surgeon, now on leave at Denver, Colo., will proceed to Camp of Instruction, at the target and maneuver reservation, near Fort D. A. Russell, Wyo., for duty. Upon completion of which he will return to Denver, Colo. and resume his leave.

Murtagh, John A., asst.-surgeon, detail as examiner of recruits, San Francisco, Cal., is revoked.

Hartsock, F. M., asst.-surgeon, detail as examiner of recruits, New York City, is revoked.

Jones, Percy L., asst.-surgeon, detail as examiner of recruits, Portland, Me., is revoked.

Truby, Willard F., asst.-surgeon, left Fort Niagara, N. Y., with 3d Batt., 12th Inf., en route to Mount Gretna, Pa., for duty at Camp of Instruction.

Brechemin, Louis Jr., asst.-surgeon, arrived at Camp Tacoma, Murray, Wash., for duty.

Davidson, W. T., asst.-surgeon, arrived at Camp Tacoma, Murray, Wash., for duty.

Ireland, M. W., surgeon, left Washington, D. C., en route to the Army General Hospital, Presidio of San Francisco, Cal., on temporary duty.

Bartlett, C. J., asst.-surgeon, arrived at Camp Tacoma, American Lake, Wash., for duty.

Devereux, J. R., asst.-surgeon, relieved from duty at Fort Logan, Colo., and ordered to Army General Hospital, Washington Barracks, Washington, D. C., for duty.

Koerper, C. E., asst. surgeon, relieved from duty at Army General Hospital, Washington Barracks, Washington, D. C., and ordered to Fort D. A. Russell, Wyo., for duty.

Howard, Deane C., asst.-surgeon, granted 20 days leave of absence.

Smith, Lloyd L., asst.-surgeon, granted 5 days leave of absence.

Kelly, John P., contract surgeon, reports arrival at Fort Miley, Cal., for temporary duty.

Chase, A. M., contract surgeon, reports at Camp of Instruction, Austin, Tex., for duty.

Tuttle, George B., contract surgeon, returned to Fort Columbia, Wash., from leave of absence.

Slayter, John T. H., contract surgeon, relieved from duty in the Philippines Division, to take effect about Oct. 10, 1906, and upon arrival at San Francisco, Cal., to report to the Military Secretary of the Army, for further orders.

Hammond, William G., dental surgeon, reports arrival at Fort Logan, Colo., for duty.

Richardson, George H., contract surgeon, when his services are no longer required on transport *Buford*, ordered to proceed to San Francisco, Cal., and report in person to the commanding general, Department of California, for assignment to duty.

Jenkins, Frederic E., contract surgeon, ordered to proceed from Hancock, Md., to San Francisco, Cal., and take transport to sail from the latter place on or about Sept. 5, 1906, for the Philippine Islands, and upon arrival at Manila to report in person to commanding general, Philippines Division, for assignment to duty.

Davis, Oscar F., contract surgeon, granted leave of absence for three months, to take effect upon being relieved from duty at Fort Des Moines, Iowa.

Reagles, James, contract surgeon, reports his arrival at Fort Keogh, Mont.

Miller, William G., contract surgeon, upon arrival at San Francisco, Cal., ordered to proceed to Fort D. A. Russell, Wyo., for duty.

McCallum, Francis M., contract surgeon, upon being relieved at Fort D. A. Russell, Wyo., by Contract Surgeon Miller, ordered to proceed to Camp McKinley, Honolulu, H. I., for duty.

Treuholtz, Clarence A., contract surgeon, ordered from General Hospital, Fort Bayard, N. Mex., to Fort Apache, Ariz., for temporary duty.

Pinquard, Joseph, contract surgeon, reports return to Fort Leavenworth, Kans., for duty.

Boak, S. D., dental surgeon, returned from leave of absence to Columbus Barracks, Ohio, for duty.

Jordan, Edward H., contract surgeon, ordered to proceed from Denver, Colo., to San Francisco, Cal., and take transport to sail from the latter place on or about Sept. 5, 1906, for the Philippine Islands, and upon arrival at Manila to report in person to the commanding general, Philippines Division, for assignment to duty.

Merrick, John N., contract surgeon, reports return to duty at Fort Missoula, Mont.

## Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the two weeks ending Aug. 11, 1906:

Longabaugh, I., acting asst.-surgeon, appointed acting asst.-surgeon from Aug. 7, 1906.

Jones, A. McK., acting asst.-surgeon, appointed acting asst.-surgeon from Aug. 7, 1906.

Smith, H. L., acting asst.-surgeon, ordered to the Naval Hospital, Philadelphia.

Moore, J. M., surgeon, ordered to the *Puritan*.

Parker, E. G., surgeon, commissioned a surgeon in the Navy from March 24, 1906.

Minter, J. M., asst.-surgeon, appointed an asst.-surgeon in the Navy from Aug. 1, 1906.

Downey, J. O., asst.-surgeon, appointed an asst.-surgeon in the Navy from Aug. 1, 1906.

## Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioner officers of the Public Health and Marine-Hospital Service for the seven days ending Aug. 15, 1906.

Austin, H. W., surgeon, relieved from duty at Detroit, on arrival of Passed Asst.-Surgeon Grubbs at that port, and directed to proceed to San Francisco, relieving Surgeon H. W. Sawtelle and assuming command of the station at that port.

Mead, F. W., surgeon, granted leave of absence for one month, from August 15.

White, J. H., surgeon, directed to proceed to Mobile, Ala., for special temporary duty, on completion of which, to rejoin station at New Orleans.

Woodward, R. M., surgeon, detailed to represent the Service at the meeting of the British Medical Association at Toronto, Canada, August 21 to 24.

Rosenau, M. J., passed asst.-surgeon, granted leave of absence for one day, August 11, under paragraph 189 of the Regulations.

Lavinder, C. H., passed asst. surgeon, granted leave of absence for twenty-eight days, from August 11.

Grubbs, S. B., passed asst.-surgeon, on expiration of present leave of absence, relieved from duty at Cleveland, Ohio, and directed to proceed to Detroit, and assume temporary command of the Service at that port.

Anderson, J. F., passed asst.-surgeon, granted leave of absence for five days from August 7, on account of sickness.

Duffy, F., acting asst.-surgeon, granted leave of absence for seven days, from August 14.

Dunn, James, acting asst.-surgeon, granted leave of absence for seven days, from August 6, under paragraph 210, of the Regulations.

O'Reilly, W. J., acting asst.-surgeon, granted leave of absence for two days, from August 28.

Ranson, S. A., acting asst.-surgeon, granted leave of absence for thirty days, from September 24, and excused for a further period of sixty days, from October 24.

Savage, W. L., acting asst.-surgeon, granted leave of absence for thirty days, from August 11.

Sill, R. H., acting asst. surgeon, granted leave of absence for fifteen days, from August 17.

Richardson, S. W., pharmacist, granted leave of absence for seven days, from August 18, under paragraph 210 of the Regulations.

Scott, E. B., pharmacist, granted leave of absence for four days, from July 26, on account of sickness.

Scott, E. B., pharmacist, granted leave of absence for three days, from July 31, on account of sickness.

BOARD CONVENED.

Board convened to meet at Cebu, Philippine Islands, for the purpose of examining Pharmacist C. R. McBride, to determine his fitness for promotion to the grade of Pharmacist of the Second-Class. Detail for the Board, Passed Asst.-Surgeon V. E. Heiser, Chairman; Passed Asst.-Surgeon Carroll Fox, Recorder. August 13, 1906.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended August 17, 1906:

SMALLPOX—UNITED STATES.

Illinois: Galesburg, July 28-August 4, 2 cases.
Louisiana: New Orleans, July 28-August 4, 9 cases, 2 deaths.
Michigan: Detroit, July 28-August 4, 2 cases.
Missouri: St. Joseph, July 28-August 4, 1 case.
New Jersey: Elizabeth, June 30-July 7, 1 case.
New York: New York, August 4-11, 1 case.
Pennsylvania: Columbia, July 28-August 4, 1 case.
Texas: Greenville, March 26-August 6, 33 cases.
Washington: Spokane, July 1-31, 1 case.
Wisconsin: Appleton, July 28-August 4, 3 cases; Milwaukee, July 14-21, 1 case; August 4-11, 1 case.

SMALLPOX—FOREIGN.

Africa: Cape Town, June 30-July 7, 1 case.
Argentina: Buenos Ayres, May 1-31, 197 deaths.
Brazil: Pernambuco, June 15-30, 2 deaths.
China: Hongkong, June 9-30, 4 cases, 3 deaths; Shanghai, June 23-30, 1 case, 1 death.
France: Paris, July 14-21, 8 cases.
Great Britain: Liverpool, July 21-28, 4 cases.
Chile: Antofagasta, June 21-July 5, 33 cases, 3 deaths.
India: Bombay, June 26-July 10, 7 deaths; Calcutta, June 23-30, 19 deaths; Madras, June 30-July 6, 4 deaths; Rangoon, June 23-30, 4 deaths.
Italy: General, July 12-19, 4 cases.
Russia: Moscow, June 30-July 21, 11 cases, 7 deaths; Odessa, July 14-21, 5 cases, 2 deaths; St. Petersburg, June 30-July 7, 6 cases, 2 deaths.
Siberia: Vladivostok, June 14-28, 2 cases.

YELLOW FEVER.

Cuba: Habana, August 15, 1 case.
Mexico: Merida, July 22-28, 12 cases, 7 deaths; Tierra Blanca, August 12, 1 case; Vera Cruz, July 22-28, 1 case, 1 death (imported from Merida).

CHOLERA.

Philippine Islands: Manila, June 23-30, 41 cases, 40 deaths; Provinces, June 23-30, 117 cases, 71 deaths.
India: Bombay, June 26-July 10, 78 deaths: Calcutta, June 23-30, 28 deaths; Karachi, July 1-8, 1 case, 1 death; Madras, June 30-July 6, 17 deaths; Rangoon, June 23-30, 4 deaths.

PLAGUE.

Australia: Brisbane, June 20, 1 case 1 death; Sydney, June 23, 1 case, 1 death.
Chile: Antofagasta, June 21-July 5, 5 cases, 1 death.
China: Hongkong, June 9-30, 112 cases, 93 deaths.
India: General, June 23-30, 896 cases, 769 deaths; Bombay, June 26-July 10, 74 deaths: Calcutta, June 23-30, 23 deaths: Karachi, July 1-8, 24 cases, 17 deaths; Rangoon, June 23-30, 137 deaths.
Japan: Formosa, June 1-July 10, 671 cases, 640 deaths.

# *Travel Notes*

## DISEASES AND HOSPITALS OF THE EAST COAST OF AFRICA.

NICHOLAS SENN, M.D.

Professor of Surgery in the University of Chicago; Professor and Head of the Surgical Department, Rush Medical College.

CHICAGO.

SALISBURY, MASHONALAND, June 8, 1906.

## GERMANY'S BATTLE WITH TROPICAL DISEASES IN EAST AFRICA.

(*Concluded from page 532.*)

TUBERCULOSIS.

No cases of tuberculosis have been seen among the natives living on the mountain plateaus in the interior. On the lowlands, and especially on the coast, where natives come most frequently in contact with foreigners, isolated cases of pulmonary tuberculosis are beginning to come to the notice of physicians, and I saw a few cases in the hospitals I visited. There is every reason to fear that this disease will become more and more prevalent, despite the efforts made to prevent its spread. The lung appears to be the organ pre-eminently predisposed to infection, as all the physicians whom I have met on the coast have never seen any cases of glandular, bone or joint tuberculosis, and among the thousands of natives that came under my observation I failed to find any of the remote results of these affections in the form of scars, kyphosis and ankylosis.

RELAPSING FEVER AND SLEEPING DISEASE.

This disease has no connection whatever with malarial infection. It is a disease *per se*, caused by the bite of a tick found constantly in the huts of natives, more especially along the highways of inland trade and travel. The traveler can protect himself against this disease by avoiding stopping-places along caravan routes and entering native huts and by sleeping in a tent at least twenty to fifty feet away from any possible sources of coming in contact with the tick, and by insisting that his servants do the same.

The tsetse fly is the most formidable enemy of man and beast in East Africa. The commission appointed by the imperial government of Germany is now engaged in throwing more light on the disease caused by infection with the parasite carried and transmitted by this fly.

One of the earliest accounts of tsetse fly and the disease caused by it was given by Dr. David Livingston, the intrepid explorer and devoted missionary, fifty years ago, when he explored the upper Zambesi region. It is interesting reading just now and I will quote from it: "The tsetse fly, *Glossina*

*morsitans*, is a little longer than the ordinary housefly and is nearly of the same color as the honey bee. The upper part of the body has three or four yellow bars across it; the wings project beyond this point considerably, and it is remarkably alert, avoiding most dextrously all attempts to capture it with the hand at common temperatures; in the cool of the mornings and evenings it is less agile. Its peculiar buzz when once heard can never be forgotten by the traveler. It is well known that the bite of this poisonous insect is certain death to the ox, horse and dog.

"The poison does not seem to be injected with a sting or by ova placed below the skin, for when one is allowed to feed freely on the hand it is seen to insert the middle prong of three portions, into which the proboscis divides, somewhat deeply into the true skin; it then draws it out a little way, and it assumes a crimson color as the mandibles come into brisk operation. The previously shrunken belly swells out, and if left undisturbed the fly quickly departs when it is full. A slight itching irritation follows, but not more than in the bite of a mosquito. In the ox this same bite produces no more immediate effects than in man. It does not startle him as the gadfly does, but a few days afterward the following symptoms supervene: The eye and nose begin to run, the coat shivers as if the animal were cold, a swelling appears under the jaw and sometimes at the navel; and, though the animal continues to graze, emaciation soon ensues, accompanied with a peculiar flaccidity of muscles, and proceeds unchecked until, perhaps, months afterward, purging comes on, and the animal, no longer able to graze, perishes in a state of extreme exhaustion. In the acute form the animal often perishes soon after the bite with staggering and blindness, as if the brain were affected by it."

He details the postmortem appearances as found in dead animals, from which he concludes the poison is in the blood. "The poison germ, contained in a bulb at the root of the proboscis, seems capable, although very minute in quantity, of reproducing itself, for the blood after death by tsetse is very small in quantity and scarcely stains the hands in dissecting." This was written half a century ago and much of it has been confirmed since by more extended and modern means of research.

F. Stuhlmann, of the Amani Institute in German East Africa, two hours by rail from Tanga, has written a classical article on the "Anatomy and Physiology of the Tsetse Fly." The amount of work done in obtaining the material for this article is simply stupendous and illustrates to perfection with what thoroughness the German scientists have undertaken the task assigned to them. He found the *Glossina fusca* more common at Amani than the *Glossina tachioroides* and *Glossina palpalis* of Uganda, and it is yet a question to be determined which one of the several varieties of tsetse flies is the most common cause of trypanosomiasis. He kept the flies for months in glass vessels covered with gauze and fed them, say every four or five days, by applying the gauze end of the glass to the skin of a heifer, so that the flies could sting the animal through the gauze cover. He studied the habits of the flies. When the fly alights on the skin it changes its place several times until it finds the right spot, when the puncture is quickly made and the suction is completed in from thirty to forty seconds. The sting feels like the prick of a needle, and the fly is full and withdraws the proboscis in one-half to three-quarters of a minute. He gives a most elaborate description of the proboscis and alimentary canal, which must be read in the original to be understood. In regard to the former he winds up by saying that it resembles that of the housefly in every particular, with the exception that the upper lip has a large, movable pair of labella, which in the ordinary fly are rudimentary. Until recently it was believed that the *Glossina morsitans* was the only cause of the sleeping disease that year after year has destroyed hundreds of herds of cattle and thousands of human beings. Koch is now of the opinion that the disease can also be communicated by the *Glossina fusca* and *Glossina pallidis*. However, further researches and observations are necessary to substantiate or to correct this view. Of the domestic animals only goats, sheep and fowls are immune to the tsetse-fly infection. Natives are much more susceptible to it than Europeans. So far the disease has proved uniformly fatal. It pursues an unusually chronic course, and the symptoms in many respects resemble those described by Livingston as he observed the disease in cattle. It begins as an acute affection, but passes into a chronic form, characterized by hebetude and somnolence, progressive anemia and emaciation. Professor Ollwig was the only physician on the coast that I met who had ever seen a case. Tsetse flies are very numerous in the neighborhood of Dar-es-Salaam, but evidently they do not carry the essential microbic cause of trypanosomiasis, probably because the wild buffalo, formerly so common here, has migrated further north in the direction of Lake Victoria Nyanza, a locality in which the sleeping disease is now most prevalent.

### ANKYLSTOMIASIS.

This parasitic disease is extremely prevalent among the natives all along the East Coast of Africa, but Europeans are seldom affected with it. I saw a number of cases in every hospital I visited. Progressive anemia and emaciation are the constant results. Thymol in half-dram doses has so far been employed in its treatment, but the results have not been satisfactory, as relapses only too often follow an apparent cure in consequence of incomplete removal of the essential parasitic cause. Oil of eucalyptus, praised recently by a Dutch physician, is now on trial in the hospital for natives at Dar-es-Salaam. My traveling companion, Dr. L. L. Seaman, made a specialty of this disease in Porto Rico and is enthusiastic over the curative effects of beta-naphthol in half-dram doses, followed twelve hours later by a brisk saline cathartic. This remedy will be given a trial in the hospitals here.

### BUBONIC PLAGUE.

This, one of the pests of the tropics, threatens German East Africa from the north. It had its origin in the interior of Africa about the source of the Nile, whence it spread to Uganda and finally reached the northern boundary of German East Africa, where two foci were established. The strict sanitary measures employed and the quarantine enforced to prevent its further spread will undoubtedly prove eminently successful.

### APPENDICITIS.

After visiting the hospitals at Mombasa, Tanga and Dar-es-Salaam and conversing with the physicians, I learned that none of them had ever seen a case of appendicitis among the blacks, and most of them had lived on the coast from two to twelve years, and in the aggregate had examined thousands of cases. The relaxing effects of the climate, the notorious laziness of the people, but more especially the almost exclusive vegetable and fruit diet, go far to explain the almost complete immunity to the disease that afflicts so frequently Europeans and Americans and fills the case books and the operating rooms of our surgeons.

### CARCINOMA.

From all the information I could gather from physicians on the East Coast of Africa and at Zanzibar, carcinoma is almost unknown as a disease of the blacks in the tropic region of Africa. On close inquiry I was able to find only two well-authenticated cases, one of carcinoma of the stomach at Dar-es-Salaam and the second a case of epithelioma of the lower lip, observed by Dr. Friedrichsen, of Zanzibar.

The diagnosis in the first case was confirmed at the operation performed, and in the second case by the clinical course of the disease, which was characterized by all the clinical symptoms of this disease from the beginning to the fatal termination. The radical operation recommended by the physician when the disease was still in an operable stage was refused, and it pursued its usual relentless course. It was this exemption from carcinoma of the natives living in the tropics and in the Arctic regions that led me to the conclusion that carcinoma is caused largely by unknown climatic and dietetic influences, for the international study of which I made a plea in one of the general sessions of the International Medical Congress at Lisbon.

*(To be continued.)*

| Number. | Name of College. | 1 Alabama. P | 1 Alabama. F | 2 Arizona. P | 2 Arizona. F | 3 Arkansas. P | 3 Arkansas. F | 4 California. P | 4 California. F | 5 *Colorado. P | 5 *Colorado. F | 6 Connecticut. P | 6 Connecticut. F | 7 Delaware. P | 7 Delaware. F | 8 D. of Columbia P | 8 D. of Columbia F | 9 Florida. P | 9 Florida. F | 10 Idaho. P | 10 Idaho. F | 11 Illinois. P | 11 Illinois. F | 12 Indiana P | 12 Indiana F | 13 Iowa. P | 13 Iowa. F | 14 Kansas. P | 14 Kansas. F | 15 Kentucky. P | 15 Kentucky. F | 16 Louisiana. P | 16 Louisiana. F | 17 Maine. P | 17 Maine. F | 18 Maryland. P | 18 Maryland. F | 19 Massachusetts. P | 19 Massachusetts. F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **ALABAMA.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Birmingham Medical College.—R | 7 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Medical College of Alabama.—R | 34 | 2 | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | |
| | **ARKANSAS.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Medical Department Arkansas University.—R | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | |
| | **CALIFORNIA.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Cooper Medical College.—R | | | 1 | 0 | | | 30 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Medical Department University of California.—R | | | | | | | 17 | 2 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | California Medical College.—E | | | | | | | 2 | 3 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Hahnemann Medical College of the Pacific.—H | | | | | | | 10 | 4 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | College of Physicians and Surgeons, San Francisco.—R | | | | | | | 10 | 13 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Oakland College of Medicine and Surgery.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | College of Medicine, University of Southern California.—R | | | 3 | 0 | | | 11 | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | College of Physicians and Surgeons, Los Angeles.—R | | | | | | | 2 | 0 | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | |
| | **COLORADO.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Denver and Gross College of Medicine.—R | | | 1 | 0 | | | 0 | 2 | 28 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Denver Homeopathic College.—H | | | | | | | | | 5 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | Colorado School of Medicine.—R | | | | | | | | | 5 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CONNECTICUT.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Yale University, Department of Medicine.—R | | | 1 | 0 | | | | | 1 | 0 | 20 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **DISTRICT OF COLUMBIA.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | George Washington University, Department of Medicine | | | | | | | | | 1 | 0 | | | | | 36 | 9 | | | | | 1 | 0 | | | | | | | | | | | | | 2 | 1 | | |
| 17 | Georgetown University, School of Medicine.—R | | | | | | | 0 | 1 | 1 | 0 | 2 | 2 | 1 | 0 | 9 | 3 | | | | | | | | | | | | | | | | | | | 1 | 1 | 4 | |
| 18 | Howard University, Medical Department.—R | | | | | | | 0 | 1 | 1 | 0 | | | | | 7 | 4 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | | | | | 1 | 0 | | | 3 | 0 | | |
| | **GEORGIA.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Atlanta College of Physicians and Surgeons.—R | 4 | 1 | | | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Georgia College of Eclectic Medicine and Surgery.—E | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | Medical College of Georgia.—R | | | | | | | | | 2 | 0 | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | | | | | |
| | **ILLINOIS.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | American Medical Missionary College.—R | | | 1 | 0 | | | 1 | 2 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | Bennett College of Eclectic Medicine and Surgery.—E | | | 1 | 0 | | | 0 | 1 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | Chicago Homeopathic Medical College.—H | 1 | 0 | | | | | 0 | 4 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | College of Medicine and Surgery.—Ph.M | | | | | | | | | 0 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | College of Physicians and Surgeons, Chicago.—R | | | | | 1 | 0 | 5 | 4 | 14 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | Hahnemann Medical College and Hospital.—H | | | 0 | 1 | | | 0 | 2 | 6 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | Harvey Medical College.—R | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | Hering Medical College.—H | 1 | 0 | | | | | 0 | 2 | 3 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Illinois Medical College.—R | | | 1 | 1 | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | Jenner Medical College.—R | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | Northwestern University Medical School.—R | | | 1 | 0 | 1 | 0 | 6 | 2 | 6 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | Rush Medical College.—R | 2 | 1 | 1 | 0 | 2 | 1 | 5 | 4 | 22 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | National Medical University | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | American College of Medicine and Surgery.—E | | | | | | | 0 | 2 | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | Dearborn Medical College, Chicago.—R | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **INDIANA.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | Central College of Physicians and Surgeons.—R | | | | | | | 0 | 1 | | | | | | | | | | | | | | | 21 | 4 | | | | | | | | | | | | | | |
| 38 | Medical College of Indiana.—R | | | | | | | 2 | 2 | 2 | 0 | | | | | | | | | | | 1 | 0 | 76 | 15 | | | | | | | | | | | | | | |
| 39 | Physio-Medical College of Indiana.—Ph.M | | | | | | | | | | | | | | | | | | | | | 0 | 2 | 4 | 3 | | | 0 | 1 | | | | | | | | | | |
| 40 | Eclectic Medical College of Indiana.—E | 1 | 0 | | | | | | | 0 | 1 | | | | | | | | | | | | | 3 | 1 | | | | | | | | | | | | | | |
| 41 | Fort Wayne College of Medicine.—R | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | Indiana University School of Medicine.—R | | | | | | | | | 1 | 0 | | | | | | | | | 0 | 1 | | | 9 | 4 | | | | | | | | | | | | | | |
| | **IOWA.** | | | | | | | | | | | | | | | | | | | | | | | 3 | 0 | | | | | | | | | | | | | | |
| 43 | Drake University College of Medicine.—R | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 44 | Keokuk Medical College, College of Physicians and Surgeons.—R | 0 | 1 | 0 | 1 | | | 0 | 1 | 9 | 0 | | | | | | | | | | | | | | | 13 | 0 | | | | | | | | | | | | |
| 45 | Sioux City College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | 0 | 5 | 2 | 0 | 45 | 6 | 3 | 2 | | | | | | | | | | |
| 46 | State University of Iowa, Homeopathic Medical Dept.—H | | | | | | | | | | | | | | | | | | | | | | | | | 13 | 0 | | | | | | | | | | | | |
| 47 | State University of Iowa, Medical Department.—R | | | 2 | 0 | | | 0 | 1 | 4 | 3 | | | | | | | | | 1 | 0 | 1 | 0 | 1 | 0 | 68 | 1 | | | | | | | | | | | | |
| | **KANSAS.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 48 | College of Physicians and Surgeons of Kansas City.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | 2 | 0 | | | | | | | | | | |
| 49 | Kansas Medical College.—R | | | | | | | | | 5 | 2 | | | | | | | | | | | | | | | | | 15 | 0 | | | | | | | | | | |
| 50 | School of Medicine, University of Kansas.—R | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | |
| | **KENTUCKY.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | Hospital College of Medicine.—R | 1 | 0 | | | 1 | 0 | 0 | 1 | 4 | 0 | | | | | | | | | | | 0 | 1 | 4 | 7 | | | 2 | 0 | 4 | 0 | 1 | 0 | | | | | | |
| 52 | Kentucky School of Medicine.—R | 1 | 0 | 1 | 0 | | | 1 | 1 | 1 | 0 | | | | | | | | | | | 3 | 0 | 5 | 1 | | | 2 | 1 | 2 | 0 | 0 | 2 | | | | | | |
| 53 | Louisville Medical College.—R | 5 | 1 | | | 0 | 1 | | | 3 | 0 | | | | | | | | | 1 | 0 | 1 | 1 | 3 | 2 | | | 3 | 0 | | | 1 | 2 | | | | | | |
| 54 | Louisville National Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | |
| 55 | Southwestern Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | | | | | | | | | | | | | | |
| 56 | Medical Department, University of Louisville.—R | 2 | 0 | 0 | 1 | | | 0 | 1 | 4 | 0 | | | | | | | | | 0 | 1 | 3 | 0 | 4 | 3 | | | 4 | 0 | 1 | 0 | 1 | 0 | | | 0 | 1 | | |
| 57 | Kentucky University, Medical Department.—R | 1 | 0 | | | | | | | | | | | | | | | 1 | 0 | | | 1 | 0 | 6 | 2 | 1 | 0 | 1 | 0 | | | | | | | | | | |
| | **LOUISIANA.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 58 | Flint Medical College of New Orleans University.—R | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 4 | | | | | | |
| 59 | Tulane University, Medical Department.—R | 6 | 0 | | | 2 | 0 | 0 | 1 | 0 | 1 | | | | | | | 2 | 0 | | | | | 1 | 0 | | | | | | | 47 | 0 | | | | | | |
| | **MAINE.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | Medical School of Maine, Bowdoin College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 19 | 0 | | | | |
| | **MARYLAND.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 61 | Baltimore Medical College.—R | 1 | 0 | | | | | | | 3 | 0 | 2 | 1 | 4 | 0 | 1 | 0 | 1 | 0 | | | 3 | 0 | 1 | 0 | | | | | | | 1 | 0 | 1 | 0 | 12 | 7 | 16 | |
| 62 | Baltimore University School of Medicine.—R | | | | | | | | | 3 | 0 | 0 | 1 | 1 | 7 | | | | | | | | | | | | | | | | | | | 3 | 1 | 6 | 1 | | |
| 63 | College of Physicians and Surgeons of Baltimore.—R | | | 1 | 0 | | | 1 | 1 | 2 | 0 | 4 | 1 | | | | | | | | | | | | | | | | | | | | | 2 | 0 | 13 | 2 | 7 | |
| 64 | Medical Department, Johns Hopkins University.—R | 1 | 0 | | | | | 4 | 0 | 1 | 0 | 2 | 0 | | | 4 | 0 | 1 | 0 | | | 2 | 0 | 1 | 0 | 1 | 0 | | | | | 1 | 0 | 1 | 0 | 14 | 0 | 2 | |
| 65 | Southern Homeopathic Medical College.—H | | | | | | | | | | | | | 2 | 0 | 0 | 1 | | | | | | | | | | | | | | | | | | | 9 | 0 | 2 | |
| 66 | University of Maryland, School of Medicine.—R | | | | | | | 0 | 1 | | | 2 | 1 | | | 0 | 1 | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | 40 | 16 | 2 | |
| 67 | Woman's Medical College of Baltimore.—R | | | | | | | | | | | 1 | 0 | | | | | 1 | 0 | | | | | | | | | | | | | | | | | 2 | 0 | 1 | |
| 68 | Maryland Medical College.—R | 2 | 0 | | | 2 | 0 | | | | | 1 | 3 | 0 | 1 | | | | | | | | | | | | | | | | | 1 | 0 | | | 16 | 33 | 1 | |
| | **MASSACHUSETTS.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 69 | Boston University School of Medicine.—H | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | 6 | 0 | | | | |
| 70 | College of Physicians and Surgeons.—R | | | | | | | | | | | 1 | 1 | | | | | | | | | 1 | 0 | | | | | 0 | 1 | | | | | 6 | 0 | 1 | 0 | | |
| 71 | Harvard University Medical School.—R | | | | | | | 2 | 1 | 3 | 0 | 2 | 0 | | | | | | | | | 5 | 0 | | | | | | | | | | | 5 | 0 | | | 63 | |
| 72 | Tufts College Medical School.—R | | | | | | | | | 2 | 0 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | 56 | |
| | **MICHIGAN.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 73 | Detroit College of Medicine.—R | | | | | | | | | 5 | 1 | | | | | | | | | | | 2 | 0 | 1 | 0 | | | | | | | | | | | | | | |
| 74 | Detroit Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | Michigan College of Medicine and Surgery.—R | | | 0 | 1 | | | | | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 76 | Grand Rapids Medical College.—R | | | | | | | | | 1 | 0 | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | 0 | |
| 77 | University of Michigan Dept. of Medicine and Surgery.—R | | | 3 | 0 | | | 4 | 7 | 6 | 0 | 0 | 1 | | | 0 | 1 | 4 | 0 | 1 | 1 | 1 | 0 | 4 | 0 | 2 | 0 | | | | | | | | | 2 | |
| 78 | University of Michigan Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | |
| | **MINNESOTA.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 79 | College of Homeopathic Med. and Surg., Univ. of Minn.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 | College of Medicine and Surgery, Univ. of Minnesota.—R | | | | | | | 2 | 0 | 1 | 1 | | | | | | | | | 1 | 0 | | | | | 1 | 0 | | | | | | | | | | | | |
| 81 | Medical Department of Hamline University.—R | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | |
| | **MISSOURI.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 82 | Medico-Chirurgical College.—R | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | 6 | 0 | | | | | | | | | | |
| 83 | University Medical College of Kansas City.—R | | | 1 | 0 | | | 1 | 1 | 3 | 1 | | | | | | | | | | | 1 | 0 | 1 | 0 | 1 | 0 | 2 | *36 | 1 | 0 | | | | | | | | |
| 84 | Kansas City Hahnemann Medical College.—H | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | 2 | 1 | | | | | | | | | | |
| 85 | Kansas City Medical College.—R | | | | | | | 0 | 1 | 1 | 0 | | | | | | | | | 1 | 0 | 0 | 1 | | | | | 26 | 1 | | | | | | | | | | |
| 86 | Eclectic Medical University.—E | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | |
| 87 | Central Medical College.—R | | | | | | | | | 4 | 1 | | | | | | | | | | | | | | | | | 8 | 2 | | | | | | | | | | |
| 88 | Ensworth Medical College.—R | | | | | | | 0 | 1 | 3 | 0 | | | | | | | | | 2 | 0 | | | | | | | 6 | 4 | | | | | | | | | | |
| 89 | Barnes Medical College.—R | 0 | 1 | 1 | 0 | 1 | 0 | | | 6 | 4 | | | | | | | | | | | | | | | 0 | 2 | 4 | 1 | 0 | 2 | | | | | | | | |
| 90 | Marion Sims-Beaumont College of Medicine.—R | | | | | 1 | 0 | 0 | 2 | 7 | 2 | | | | | | | | | | | 0 | 1 | 21 | 1 | 2 | 0 | 5 | 2 | 5 | 0 | 2 | | | | | | | |
| 91 | St. Louis College of Physicians and Surgeons.—R | | | | | 1 | 0 | | | 3 | 0 | | | | | | | | | | | | | 51 | 2 | 0 | 1 | 2 | 1 | 1 | 0 | | | 1 | 0 | | | 1 | |
| 92 | American Medical College.—E | | | | | | | | | 4 | 1 | | | | | | | | | | | | | 25 | 3 | | | 1 | 2 | 0 | 1 | 0 | | | | | | 0 | |
| 93 | Homeopathic Medical College of Missouri.—H | | | | | | | 1 | 0 | 1 | 0 | | | | | | | | | | | | | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | | | | | | | | |
| 94 | Medical Department, Washington University.—R | | | 1 | 0 | 3 | 0 | 2 | 1 | | | | | | | | | | | | | | | 2 | 0 | | | 1 | 0 | | | | | | | | | | |
| 95 | University of the State of Missouri.—R | 1 | 0 | | | 1 | 0 | 1 | 0 | 7 | 1 | | | | | | | | | 1 | 0 | 26 | 0 | 1 | 0 | | | 3 | 1 | | | 1 | 0 | | | | | | |
| | **NEBRASKA.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 96 | University of Nebraska College of Medicine.—R | | | | | | | 1 | 1 | 3 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 97 | John A. Creighton Medical College.—R | | | | | | | 0 | 1 | 2 | 0 | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | |
| 98 | Lincoln Medical College of Cotner University.—E | | | | | | | | | 0 | 1 | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | |
| | **NEW HAMPSHIRE.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 99 | Dartmouth Medical College.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | 11 | |
| | **NEW YORK.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | Albany Medical College.—R | | | | | | | 1 | 0 | 2 | 0 | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | |
| 101 | College of Physicians and Surgeons.—R | 1 | 0 | 1 | 0 | | | 3 | 1 | 9 | 0 | 5 | 0 | | | | | 1 | 0 | | | 1 | 0 | 2 | 1 | 1 | 0 | | | 1 | 0 | 1 | 0 | 4 | 0 | | | | |
| 102 | Cornell University Medical College.—R | 1 | 0 | 2 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | 2 | 0 | | | | | | | 1 | 0 | | | | | | |
| 103 | Eclectic Medical College.—E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 104 | Long Island College Hospital.—R | | | | | | | 0 | 1 | 1 | 0 | 2 | 1 | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | |
| 105 | New York Homeopathic Medical College and Hospital.—H | | | | | | | | | 1 | 0 | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| 106 | New York Medical College and Hospital for Women.— | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 107 | University and Bellevue Hospital Medical College.—R | | | | | | | 3 | 4 | 5 | 2 | 1 | 0 | | | | | 1 | 0 | | | 1 | 0 | 1 | 0 | 1 | 0 | | | | | | | | | 1 | 1 | | |
| 108 | Syracuse University College of Medicine.—R | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 109 | University of Buffalo, Medical Department.—R | | | 1 | 0 | | | | | 2 | 0 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **NORTH CAROLINA.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110 | Leonard Medical School, Shaw University.—R | 3 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 1 | | | | | | | | |
| 111 | North Carolina Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 112 | Medical Department, University of North Carolina.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **OHIO.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 113 | Western Reserve University Medical College.—R | | | | | | | | | 2 | 0 | | | | | | | 1 | 0 | | | 1 | 1 | | | 1 | 0 | | | | | | | | | | | | |
| 114 | Cleveland College of Physicians and Surgeons.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 115 | Cleveland Homeopathic Medical College.—H | | | | | | | 1 | 1 | 1 | 0 | 1 | 0 | | | | | | | | | 4 | 0 | 0 | 1 | | | | | 2 | 0 | | | | | | | | |
| 116 | Eclectic Medical Institute.—E | | | | | | | | | 5 | 0 | | | | | | | | | | | 4 | 1 | 6 | 5 | 0 | 3 | 3 | 0 | 4 | 0 | | | | | | | | |
| 117 | Medical College of Ohio.—R | | | | | | | | | 8 | 1 | | | | | | | | | 0 | 1 | | | 1 | 0 | | | 1 | 2 | 2 | 0 | | | | | | | | |
| 118 | Pulte Medical College.—H | | | | | | | 0 | 1 | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | |
| 119 | Miami Medical College.—R | | | | | | | | | 2 | 0 | | | | | | | | | | | | | 3 | 0 | | | | | | | | | | | | | | |
| 120 | Ohio Medical University.—R | | | | | | | 0 | 1 | 3 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 121 | Starling Medical College.—R | | | 1 | 1 | 1 | 0 | | | 1 | 1 | | | | | | | | | 0 | 1 | | | 1 | 0 | | | 1 | 1 | 1 | 0 | | | | | | | | |
| 122 | Toledo Medical College.—R | | | | | | | | | 3 | 0 | | | | | | | | | | | 6 | 0 | | | | | | | | | | | | | | | | |
| | **OREGON.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 123 | University of Oregon, Medical Department.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 124 | Medical Department, Willamette University.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | |
| | **PENNSYLVANIA.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 125 | Temple College of Philadelphia, Dept. of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 126 | University of Pennsylvania, Department of Medicine.—R | 1 | 0 | 1 | 0 | | | 2 | 3 | 8 | 2 | 4 | 0 | 2 | 0 | 2 | 0 | | | | | 3 | 0 | | | 2 | 0 | 1 | 0 | | | | | 3 | 0 | 2 | 1 | | |
| 127 | Hahnemann Medical College and Hospital.—H | | | | | | | | | | | | | 2 | 0 | 2 | 1 | | | | | | | | | | | | | | | | | | | 2 | 0 | | |
| 128 | Jefferson Medical College.—R | 1 | 0 | 3 | 0 | | | 1 | 3 | 9 | 2 | 3 | 0 | 3 | 0 | | | 1 | 1 | 3 | 0 | 3 | 0 | 1 | 0 | 3 | 0 | 1 | 0 | | | 1 | 0 | 4 | 0 | | | 10 | |
| 129 | Woman's Medical College of Pennsylvania.—R | | | | | | | | | 1 | 0 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 130 | Medico-Chirurgical College of Philadelphia.—R | | | 1 | 0 | | | | | 4 | 1 | | | 3 | 0 | | | 1 | 0 | | | | | 1 | 0 | 1 | 0 | | | | | 2 | 0 | 1 | 0 | | | | |
| 131 | Western Pennsylvania Medical College.—R | | | | | | | | | 5 | 1 | | | 1 | 0 | 0 | 1 | | | | | 3 | 0 | | | | | 0 | 1 | | | | | 3 | 0 | | | | |
| | **SOUTH CAROLINA.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 132 | Medical College of the State of South Carolina.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | 1 | 0 | | | | | 1 | 0 | | | | | | | | |
| | **TENNESSEE.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 133 | Tennessee Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | 1 | 0 | | | | | | | | | | |
| 134 | Knoxville Medical College.—R | 1 | 0 | | | 0 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 135 | Medical Department of University of Nashville.—R | 6 | 2 | | | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | 2 | 0 | 2 | 0 | 6 | 0 | | | | | | |
| 136 | Vanderbilt University Medical Department.—R | 5 | 0 | 1 | 0 | | | | | | | | | 2 | 0 | 2 | 1 | | | | | | | | | | | | | 3 | 0 | 3 | 0 | | | | | | |
| 137 | University of Tennessee, Medical Department.—R | 0 | 1 | | | 2 | 0 | | | | | | | | | | | 1 | 0 | | | | | | | | | | | 5 | 1 | 0 | 1 | | | | | | |
| 138 | Meharry Medical College.—R | 7 | 2 | | | 4 | 0 | | | 6 | 0 | | | | | | | 1 | 2 | | | 2 | 0 | | | 0 | 1 | 3 | 2 | | | 0 | 1 | | | | | | |
| 139 | Memphis Hospital Medical College.—R | 5 | 1 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | 14 | 4 | | | | | | |
| 140 | University of the South.—R | 4 | 0 | | | | | | | 0 | 1 | 1 | 0 | | | | | 1 | 1 | | | | | | | | | | | | | 12 | 0 | | | 0 | 2 | 1 | |
| 141 | Chattanooga National Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 142 | Chattanooga Medical College.—R | 11 | 3 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 143 | University of West Tennessee, Medical Department.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **TEXAS.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 144 | Medical Department Fort Worth University.—R | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | |
| 145 | University of Texas Department of Medicine.—R | | | 1 | 0 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 146 | Baylor University College of Medicine.—R | 1 | 0 | | | 1 | 0 | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | |
| 147 | Dallas Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | |
| 148 | Gate City Medical College, Texarkana.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 149 | Southwestern University Medical College, Dallas.—R | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | College of Physicians and Surgeons, Dallas.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **VERMONT.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 151 | University of Vermont Medical Department.—R | | | | | | | 1 | 1 | 1 | 0 | 6 | 1 | | | | | | | | | | | | | | | | | | | | | 2 | 0 | | | 12 | |
| | **VIRGINIA.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 152 | Medical College of Virginia.—R | | | | | | | | | | | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | |
| 153 | University College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 154 | University of Virginia Department of Medicine.—R | 4 | 0 | | | | | 1 | 1 | 1 | 1 | | | | | 3 | 0 | | | | | | | | | | | 1 | 0 | | | | | | | 1 | 0 | | |
| | **WISCONSIN.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 155 | Milwaukee Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 156 | Wisconsin College of Physicians and Surgeons.—R | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | |
| 157 | Canadian Colleges | | | 2 | 0 | | | 5 | 2 | 14 | 0 | 0 | 1 | | | | | | | 4 | 0 | 10 | 1 | 1 | 0 | 7 | 0 | 1 | 0 | | | | | 5 | 0 | | | 12 | |
| 158 | Foreign | | | 1 | 0 | | | 4 | 1 | 5 | 1 | 1 | 0 | | | | | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | | | | | | | 1 | 0 | 1 | 0 | | | | |
| 159 | Undergraduates and Miscellaneous | 9 | 5 | | | 54 | 53 | 0 | 7 | 3 | 4 | | | | | | | | | | | | | 13 | 6 | 1 | 0 | | | 1 | 0 | | | 1 | 0 | 0 | 3 | | |
| | **Totals by States** | 153 | | 42 | | 146 | | 271 | | 375 | | 83 | | 28 | | 90 | | 27 | | 61 | | 795 | | 312 | | 235 | | 192 | | 42 | | 120 | | 71 | | 195 | | | |
| | Totals—Registered on Credentials or by Reciprocity | | | | | | | | | *38* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Totals—Examined—Passed | 131 | | 35 | | 88 | | 144 | | 283 | | 66 | | 20 | | 67 | | 24 | | 46 | | 759 | | 249 | | 205 | | 163 | | 38 | | 105 | | 68 | | 120 | | | |
| | Totals—Examined—Failed | 22 | | 7 | | 58 | | 127 | | 54 | | 17 | | 8 | | 23 | | 3 | | 15 | | 36 | | 63 | | 30 | | 29 | | 4 | | 15 | | 3 | | 75 | | | |
| | Percentage of Failures | 14.4 | | 16.7 | | 39.0 | | 46.5 | | 14.4 | | 20.4 | | 28.5 | | 25.5 | | 11.1 | | 3.5 | | 4.5 | | 20.1 | | 12.7 | | 15.4 | | 9.5 | | 12.5 | | 4.2 | | 38.4 | | | |

Figures in italics shows those registered on credentials.
* Examination consists of an oral or written examination.
† Report for October examination missing.

| | Totals. | Registered on Credentials. | Examined—Passed. | Examined—Failed. | Percentage of Failures. | No. of States having Representatives. | Number. |
|---|---|---|---|---|---|---|---|
| | 9 | .... | 9 | 0 | 0. | 2 | 1 |
| | 46 | .... | 41 | 5 | 10.9 | 7 | 2 |
| | 3 | .... | 2 | 1 | 33.3 | 3 | 3 |
| | 54 | 5 | 40 | 9 | 18.4 | 7 | 4 |
| | 24 | 1 | 21 | 2 | 8.7 | 6 | 5 |
| | 12 | 2 | 4 | 6 | 60.0 | 5 | 6 |
| | 16 | .... | 11 | 5 | 31.2 | 3 | 7 |
| | 41 | 8 | 19 | 14 | 42.4 | 6 | 8 |
| | | | | | | | 9 |
| | 29 | .... | 16 | 13 | 44.8 | 4 | 10 |
| | 2 | .... | 2 | 0 | 0. | 1 | 11 |
| | 52 | 30 | 16 | 6 | 27.3 | 12 | 12 |
| | 7 | 5 | 2 | 0 | 0. | 2 | 13 |
| | 17 | 7 | 10 | 0 | 0. | 8 | 14 |
| | 30 | .... | 30 | 0 | 0. | 7 | 15 |
| | 70 | 2 | 56 | 12 | 17.6 | 14 | 16 |
| | 35 | .... | 27 | 8 | 22.8 | 15 | 17 |
| | 39 | .... | 28 | 11 | 28.2 | 17 | 18 |
| | 17 | .... | 12 | 5 | 29.4 | 9 | 19 |
| | 6 | 1 | 1 | 4 | 80.0 | 4 | 20 |
| | 5 | .... | 4 | 1 | 20.0 | 3 | 21 |
| | 20 | .... | 17 | 3 | 15.0 | 12 | 22 |
| | 40 | .... | 32 | 8 | 20.0 | 11 | 23 |
| | 18 | 1 | 10 | 7 | 41.2 | 11 | 24 |
| | 15 | .... | 7 | 8 | 53.3 | 4 | 25 |
| | 302 | 3 | 273 | 26 | 8.7 | 28 | 26 |
| | 79 | 1 | 65 | 13 | 16.7 | 18 | 27 |
| | 18 | .... | 16 | 2 | 11.1 | 3 | 28 |
| | 24 | 1 | 19 | 4 | 17.4 | 9 | 29 |
| | 59 | .... | 42 | 17 | 28.8 | 22 | 30 |
| | 22 | 1 | 15 | 6 | 28.6 | 5 | 31 |
| | 191 | 1 | 180 | 10 | 5.1 | 27 | 32 |
| | 254 | 4 | 229 | 21 | 8.4 | 30 | 33 |
| | 24 | .... | 23 | 1 | 4.2 | 7 | 34 |
| | 51 | .... | 43 | 8 | 17.6 | 9 | 35 |
| | 29 | .... | 28 | 1 | 3.4 | 2 | 36 |
| | 28 | .... | 22 | 6 | 21.4 | 4 | 37 |
| | 100 | .... | 83 | 17 | 17.0 | 6 | 38 |
| | 12 | .... | 5 | 7 | 41.1 | 4 | 39 |
| | 7 | .... | 5 | 2 | 28.6 | 4 | 40 |
| | 16 | .... | 10 | 6 | 37.5 | 4 | 41 |
| | 4 | .... | 4 | 0 | 0. | 2 | 42 |
| | 18 | .... | 14 | 4 | 22.2 | 5 | 43 |
| | 90 | .... | 64 | 26 | 28.9 | 15 | 44 |
| | 15 | .... | 15 | 0 | 0. | 2 | 45 |
| | 3 | .... | 3 | 0 | 0. | 2 | 46 |
| | 91 | 2 | 81 | 8 | 8.9 | 14 | 47 |
| | 5 | 1 | 4 | 0 | 0. | 4 | 48 |
| | 25 | .... | 22 | 3 | 12.0 | 5 | 49 |
| | | | | | | | 50 |
| | 47 | .... | 25 | 22 | 46.8 | 17 | 51 |
| | 58 | .... | 34 | 24 | 41.4 | 24 | 52 |
| | 38 | .... | 22 | 16 | 23.8 | 14 | 53 |
| | 1 | .... | 1 | 0 | 0. | 1 | 54 |
| | 3 | .... | 1 | 2 | 66.7 | 1 | 55 |
| | 47 | .... | 31 | 16 | 37.1 | 18 | 56 |
| | 35 | .... | 18 | 17 | 48.6 | 16 | 57 |
| | 12 | .... | 2 | 10 | 83.3 | 3 | 58 |
| | 91 | 1 | 80 | 10 | 11.1 | 15 | 59 |
| | 24 | .... | 24 | 0 | 0. | 3 | 60 |
| | 127 | .... | 92 | 35 | 27.6 | 26 | 61 |
| | 59 | .... | 20 | 39 | 66.1 | 15 | 62 |
| | 97 | .... | 81 | 16 | 16.5 | 25 | 63 |
| | 64 | 2 | 62 | 0 | 0. | 25 | 64 |
| | 16 | .... | 14 | 2 | 12.5 | 5 | 65 |
| | 117 | 3 | 83 | 31 | 27.3 | 17 | 66 |
| | 7 | 1 | 6 | 0 | 0. | 6 | 67 |
| | 115 | 1 | 52 | 62 | 54.4 | 18 | 68 |
| | 18 | .... | 15 | 3 | 16.7 | 7 | 69 |
| | 31 | .... | 18 | 13 | 41.9 | 10 | 70 |
| | 116 | .... | 113 | 3 | 2.6 | 18 | 71 |
| | 76 | .... | 69 | 7 | 9.2 | 9 | 72 |
| | 29 | .... | 24 | 5 | 17.2 | 11 | 73 |
| | 1 | .... | 1 | 0 | 0. | 1 | 74 |
| | 4 | .... | 3 | 1 | 25.0 | 3 | 75 |
| | 2 | .... | 1 | 1 | 50.0 | 2 | 76 |
| | 136 | 1 | 119 | 16 | 11.8 | 24 | 77 |
| | 13 | .... | 13 | 0 | 0. | 6 | 78 |
| | 2 | .... | 2 | 0 | 0. | 1 | 79 |
| | 123 | .... | 109 | 14 | 11.4 | 13 | 80 |
| | 36 | .... | 22 | 14 | 38.9 | 8 | 81 |
| | 12 | .... | 10 | 2 | 23.1 | 6 | 82 |
| | 62 | 1 | 53 | 8 | 13.1 | 14 | 83 |
| | 7 | .... | 5 | 2 | 28.6 | 3 | 84 |
| | 44 | .... | 36 | 8 | 18.2 | 9 | 85 |
| | 3 | .... | 2 | 1 | 33.3 | 2 | 86 |
| | 20 | .... | 15 | 5 | 25.0 | 5 | 87 |
| | 21 | 1 | 10 | 10 | 50.0 | 7 | 88 |
| | 73 | .... | 48 | 25 | 34.2 | 23 | 89 |
| | 93 | .... | 79 | 14 | 15.0 | 17 | 90 |
| | 45 | .... | 37 | 8 | 17.8 | 12 | 91 |
| | 13 | .... | 9 | 4 | 30.8 | 7 | 92 |
| | 6 | .... | 6 | 0 | 0. | 5 | 93 |
| | 61 | 1 | 52 | 8 | 13.1 | 20 | 94 |
| | 14 | .... | 13 | 1 | 7.7 | 6 | 95 |
| | 20 | 3 | 12 | 5 | 23.5 | 9 | 96 |
| | 15 | 2 | 11 | 2 | 15.4 | 10 | 97 |
| | 6 | .... | 3 | 3 | 50.0 | 4 | 98 |
| | 19 | .... | 18 | 1 | 5.3 | 6 | 99 |
| | 56 | .... | 56 | 0 | 0. | 7 | 100 |
| | 229 | 1 | 219 | 9 | 3.9 | 26 | 101 |
| | 79 | .... | 79 | 0 | 0. | 10 | 102 |
| | 16 | .... | 13 | 3 | 18.7 | 2 | 103 |
| | 90 | .... | 80 | 10 | 11.1 | 8 | 104 |
| | 27 | .... | 25 | 2 | 7.4 | 7 | 105 |
| | 12 | .... | 10 | 2 | 16.7 | 4 | 106 |
| | 84 | 1 | 72 | 11 | 13.2 | 20 | 107 |
| | 33 | .... | 32 | 1 | 3.0 | 4 | 108 |
| | 59 | .... | 58 | 1 | 1.7 | 9 | 109 |
| | 46 | .... | 21 | 25 | 54.3 | 10 | 110 |
| | 30 | .... | 22 | 8 | 26.7 | 2 | 111 |
| | 9 | .... | 8 | 1 | 11.1 | 1 | 112 |
| | 32 | 1 | 28 | 3 | 9.7 | 9 | 113 |
| | 19 | 1 | 17 | 1 | 5.5 | 3 | 114 |
| | 35 | .... | 32 | 3 | 8.6 | 10 | 115 |
| | 56 | .... | 44 | 12 | 21.4 | 14 | 116 |
| | 54 | .... | 46 | 8 | 14.8 | 12 | 117 |
| | 15 | .... | 9 | 6 | 40.0 | 8 | 118 |
| | 28 | .... | 27 | 1 | 3.6 | 6 | 119 |
| | 58 | .... | 49 | 9 | 15.5 | 11 | 120 |
| | 45 | .... | 37 | 8 | 17.8 | 11 | 121 |
| | 10 | .... | 9 | 1 | 10.0 | 3 | 122 |
| | 36 | .... | 17 | 19 | 52.8 | 3 | 123 |
| | 13 | .... | 7 | 6 | 46.1 | 3 | 124 |
| | 2 | .... | 2 | 0 | 0. | 2 | 125 |
| | 182 | .... | 172 | 10 | 5.5 | 27 | 126 |
| | 53 | .... | 51 | 2 | 3.7 | 10 | 127 |
| | 231 | 1 | 217 | 13 | 5.6 | 35 | 128 |
| | 52 | .... | 50 | 2 | 3.8 | 17 | 129 |
| | 128 | .... | 103 | 25 | 19.5 | 10 | 130 |
| | 94 | .... | 81 | 13 | 13.8 | 8 | 131 |
| | 34 | .... | 27 | 7 | 20.6 | 8 | 132 |
| | 22 | .... | 17 | 5 | 22.7 | 6 | 133 |
| | 7 | .... | 1 | 6 | 85.7 | 5 | 134 |
| | 60 | .... | 49 | 11 | 18.3 | 14 | 135 |
| | 37 | .... | 30 | 7 | 18.9 | 13 | 136 |
| | 38 | .... | 22 | 16 | 42.1 | 14 | 137 |
| | 58 | .... | 33 | 25 | 43.1 | 16 | 138 |
| | 55 | .... | 35 | 31 | 36.0 | 9 | 139 |
| | 60 | 1 | 32 | 27 | 45.8 | 16 | 140 |
| | | | | | | | 141 |
| | 44 | .... | 21 | 23 | 52.3 | 11 | 142 |
| | 2 | .... | 0 | 2 | 100.0 | 1 | 143 |
| | 4 | .... | 3 | 1 | 25.0 | 3 | 144 |
| | 12 | .... | 12 | 0 | 0. | 3 | 145 |
| | 7 | .... | 4 | 3 | 42.8 | 5 | 146 |
| | 3 | .... | 1 | 2 | 66.7 | 2 | 147 |
| | 5 | .... | 2 | 3 | 60.0 | 2 | 148 |
| | 2 | .... | 1 | 1 | 50.0 | 2 | 149 |
| | 1 | .... | 1 | 0 | 0. | 1 | 150 |
| | 88 | .... | 76 | 12 | 13.6 | 14 | 151 |
| | 53 | 1 | 40 | 12 | 23.1 | 9 | 152 |
| | 57 | .... | 52 | 5 | 8.8 | 4 | 153 |
| | 65 | .... | 59 | 6 | 9.1 | 15 | 154 |
| | 21 | .... | 19 | 2 | 9.5 | 2 | 155 |
| | 17 | .... | 14 | 3 | 17.7 | 4 | 156 |
| | 152 | .... | 126 | 26 | 17.1 | 28 | 157 |
| | 152 | .... | 111 | 41 | 29.9 | 28 | 158 |
| | 462 | 11 | 205 | 246 | 54.4 | 22 | 159 |
| 7618 | .... | .... | .... | .... | .... | .... | |
| .... | 111 | .... | .... | .... | .... | .... | |
| 5963 | .... | .... | .... | .... | .... | .... | |
| 1544 | .... | .... | .... | .... | .... | .... | |
| .... | .... | .... | .... | .... | 20.6 | .... | |

| Number. | Name of College. | 1 Alabama. P | 1 Alabama. F | 2 Arizona. P | 2 Arizona. F | 3 Arkansas. P | 3 Arkansas. F | 4 California. P | 4 California. F | 5 *Colorado. P | 5 *Colorado. F | 6 Connecticut. P | 6 Connecticut. F | 7 Delaware. P | 7 Delaware. F | 8 D. of Columbia P | 8 D. of Columbia F | 9 Florida. P | 9 Florida. F | 10 Idaho. P | 10 Idaho. F | 11 Illinois. P | 11 Illinois. F | 12 Indiana P | 12 Indiana F | 13 Iowa. P | 13 Iowa. F | 14 Kansas. P | 14 Kansas. F | 15 Kentucky. P | 15 Kentucky. F | 16 Louisiana. P | 16 Louisiana. F | 17 Maine. P | 17 Maine. F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Alabama.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Birmingham Medical College.—R | 7 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Medical College of Alabama.—R | 28 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Arkansas.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Medical Department Arkansas University.—R | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | |
| | **California.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Cooper Medical College.—R | | | | | | | 27 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Medical Department University of California.—R | | | | | | | 12 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | California Medical College.—E | | | | | | | 0 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Hahnemann Medical College of the Pacific.—H | | | | | | | 8 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | College of Physicians and Surgeons, San Francisco.—R | | | | | | | 4 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Oakland College of Medicine and Surgery.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | College of Medicine, University of Southern California.—R | | | | | | | 10 | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | College of Physicians and Surgeons, Los Angeles.—R | | | | | | | 2 | 0 | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | |
| | **Colorado.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Denver and Gross College of Medicine.—R | | | | | | | 0 | 1 | 28 | 0 | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | |
| 13 | Denver Homeopathic College.—H | | | | | | | | | 3 | 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | Colorado School of Medicine.—R | | | | | | | | | 4 | 0 | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | |
| | **Connecticut.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Yale University, Department of Medicine.—R | | | | | | | | | | | 9 | 0 | | | | | | | | | | | | | | | | | | | | | | |
| | **District of Columbia.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | George Washington University, Department of Medicine | | | | | | | | | | | | | | | 28 | 6 | | | | | 1 | 0 | 1 | 0 | | | | | | | | | | |
| 17 | Georgetown University, School of Medicine.—R | | | | | | | 0 | 1 | | | 0 | 1 | 1 | 0 | 5 | 2 | | | | | | | | | | | | | | | | | | |
| 18 | Howard University, Medical Department.—R | | | | | | | | | | | | | | | 2 | 1 | | | | | 1 | 0 | | | 1 | 0 | | | | | | | | |
| | **Georgia.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Atlanta College of Physicians and Surgeons.—R | 4 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Georgia College of Eclectic Medicine and Surgery.—E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | |
| 21 | Medical College of Georgia.—R | | | | | | | | | | | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | |
| | **Illinois.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | American Medical Missionary College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | |
| 23 | Bennett College of Eclectic Medicine and Surgery.—E | | | | | | | | | | | | | | | | | | | | | 24 | 0 | | | | | | | | | | | | |
| 24 | Chicago Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | College of Medicine and Surgery.—Ph.M | | | | | | | | | | | | | | | | | | | | | 5 | 3 | | | | | | | | | | | | |
| 26 | College of Physicians and Surgeons, Chicago.—R | | | | | | | 1 | 1 | 2 | 0 | | | | | | | | | | | 153 | 0 | 4 | 0 | 7 | 2 | | | | | | | | |
| 27 | Hahnemann Medical College and Hospital.—H | | | | | | | 0 | 1 | 1 | 0 | | | | | | | | | | | 42 | 0 | 1 | 1 | 2 | 0 | | | | | | | | |
| 28 | Harvey Medical College.—R | | | | | | | | | | | | | | | | | | | | | 15 | 1 | | | | | | | | | | | | |
| 29 | Hering Medical College.—H | | | | | | | | | | | | | | | | | | | | | 9 | 0 | | | | | | | | | | | | |
| 30 | Illinois Medical College.—R | | | | | | | | | | | | | | | | | | | 1 | 0 | 14 | 2 | 5 | 2 | 0 | 1 | 1 | 0 | 1 | 0 | | | | |
| 31 | Jenner Medical College.—R | | | | | | | | | | | | | | | | | | | | | 11 | 3 | | | | | | | | | | | | |
| 32 | Northwestern University Medical School.—R | | | | | | | 3 | 1 | 2 | 0 | | | | | | | | | 1 | 0 | 89 | 0 | 4 | 0 | 8 | 0 | 2 | 0 | | | 1 | 0 | | |
| 33 | Rush Medical College.—R | 0 | 1 | | | | | | | 2 | 0 | | | | | | | | | 1 | 0 | 59 | 0 | 4 | 0 | 5 | 0 | | | | | | | 1 | 0 |
| 34 | National Medical University | | | | | | | | | | | | | | | | | | | | | 10 | 0 | 1 | 0 | 1 | 0 | | | | | | | | |
| 35 | American College of Medicine and Surgery.—E | | | | | | | 0 | 2 | | | | | | | | | | | | | 33 | 3 | 2 | 0 | | | | | | | | | | |
| 36 | Dearborn Medical College, Chicago.—R | | | | | | | | | | | | | | | | | | | | | 28 | 0 | | | | | | | | | | | | |
| | **Indiana.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | Central College of Physicians and Surgeons.—R | | | | | | | | | | | | | | | | | | | | | | | 21 | 4 | | | | | 1 | 0 | | | | |
| 38 | Medical College of Indiana.—R | | | | | | | | | | | | | | | | | | | | | | | 76 | 12 | | | | | | | | | | |
| 39 | Physio-Medical College of Indiana.—Ph.M | | | | | | | | | | | | | | | | | | | | | | | 4 | 3 | | | | | | | | | | |
| 40 | Eclectic Medical College of Indiana.—E | | | | | | | | | | | | | | | | | | | | | | | 3 | 1 | | | | | | | | | | |
| 41 | Fort Wayne College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | 9 | 4 | | | | | | | | | | |
| 42 | Indiana University School of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Iowa.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | Drake University College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | 11 | 0 | | | | | | | | |
| 44 | Keokuk Medical College, College of Physicians and Surgeons.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | 0 | 2 | 1 | 0 | 44 | 4 | 2 | 0 | | | | | | |
| 45 | Sioux City College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | 13 | 0 | | | | | | | | |
| 46 | State University of Iowa, Homeopathic Medical Dept.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 47 | State University of Iowa, Medical Department.—R | | | | | | | | | | | | | | | | | | | | | | | | | 68 | 0 | | | | | | | | |
| | **Kansas.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 48 | College of Physicians and Surgeons of Kansas City.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 0 | | | | | | |
| 49 | Kansas Medical College.—R | | | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | | 15 | 0 | | | | | | |
| 50 | School of Medicine, University of Kansas.—R | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | |
| | **Kentucky.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | Hospital College of Medicine.—R | 1 | 0 | | | | | | | 1 | 0 | | | | | | | | | | | | | 2 | 0 | | | 2 | 0 | 3 | 0 | | | | |
| 52 | Kentucky School of Medicine.—R | | | 1 | 0 | | | | | | | | | | | | | | | | | 2 | 0 | 3 | 0 | | | | | 1 | 0 | | | | |
| 53 | Louisville Medical College.—R | 2 | 0 | | | | | | | 1 | 0 | | | | | | | | | | | 1 | 0 | 2 | 2 | | | | | | | 1 | 2 | | |
| 54 | Louisville National Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | Southwestern Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | 0 | 1 | | | | | | | | | | |
| 56 | Medical Department, University of Louisville.—R | 1 | 0 | | | | | | | | | | | | | | | | | | | 2 | 0 | 2 | 1 | | | 2 | 0 | 1 | 0 | | | | |
| 57 | Kentucky University, Medical Department.—R | 1 | 0 | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | |
| | **Louisiana.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 58 | Flint Medical College of New Orleans University.—R | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | |
| 59 | Tulane University, Medical Department.—R | 6 | 0 | | | 1 | 0 | 0 | 1 | | | | | | | | | 2 | 0 | | | | | | | | | | | | | 45 | 0 | | |
| | **Maine.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | Medical School of Maine, Bowdoin College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 17 | 0 |
| | **Maryland.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 61 | Baltimore Medical College.—R | 1 | 0 | | | | | | | | | 1 | 0 | 3 | 0 | 1 | 0 | 1 | 0 | | | | | | | | | | | | | | | 1 | 0 |
| 62 | Baltimore University School of Medicine.—R | | | | | | | | | | | | | 0 | 3 | | | | | | | | | | | | | | | 1 | 0 | | | 0 | 1 |
| 63 | College of Physicians and Surgeons of Baltimore.—R | | | | | | | | | | | 3 | 0 | | | | | | | | | 1 | 0 | | | | | | | | | | | | |
| 64 | Medical Department, Johns Hopkins University.—R | 1 | 0 | | | | | 3 | 0 | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | 1 | 0 |
| 65 | Southern Homeopathic Medical College.—H | | | | | | | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | | | | | |
| 66 | University of Maryland, School of Medicine.—R | | | | | | | | | | | 1 | 0 | | | | | 1 | 0 | | | | | | | | | | | | | | | | |
| 67 | Woman's Medical College of Baltimore.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 68 | Maryland Medical College.—R | 2 | 0 | | | | | | | | | 0 | 2 | 0 | 1 | | | | | | | | | | | | | | | | | 1 | 0 | | |
| | **Massachusetts.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 69 | Boston University School of Medicine.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 0 |
| 70 | College of Physicians and Surgeons.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 0 |
| 71 | Harvard University Medical School.—R | | | | | | | | | 1 | 0 | | | | | | | 1 | 0 | | | | | | | | | | | | | | | 3 | 0 |
| 72 | Tufts College Medical School.—R | | | | | | | | | | | 1 | 2 | | | | | | | | | | | | | | | | | | | | | 1 | 0 |
| | **Michigan.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 73 | Detroit College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | |
| 74 | Detroit Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | Michigan College of Medicine and Surgery.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 76 | Grand Rapids Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 77 | University of Michigan Dept. of Medicine and Surgery.—R | | | | | | | | | 1 | 0 | | | | | | | 2 | 0 | | | | | 1 | 0 | 1 | 0 | | | | | | | | |
| 78 | University of Michigan Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Minnesota.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 79 | College of Homeopathic Med. and Surg., Univ. of Minn.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 | College of Medicine and Surgery, Univ. of Minnesota.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 81 | Medical Department of Hamline University.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Missouri.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 82 | Medico-Chirurgical College.—R | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | 6 | 0 | | | | | | |
| 83 | University Medical College of Kansas City.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | 2 | 0 | 29 | 0 | | | | | | |
| 84 | Kansas City Hahnemann Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | |
| 85 | Kansas City Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | 25 | 0 | | | | | | |
| 86 | Eclectic Medical University.—E | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | |
| 87 | Central Medical College.—R | | | | | | | | | 0 | 1 | | | | | | | | | 1 | 0 | | | | | | | 7 | 2 | | | | | | |
| 88 | Ensworth Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 2 | 5 | 3 | | | | | | |
| 89 | Barnes Medical College.—R | | | | | | | 3 | 2 | | | | | | | | | | | | | 17 | 1 | 1 | 0 | 3 | 0 | 2 | 0 | 0 | 1 | | | | |
| 90 | Marion Sims-Beaumont College of Medicine.—R | | | | | | | 2 | 0 | | | | | | | | | | | | | 45 | 2 | 0 | 1 | | | 4 | 0 | | | 1 | 0 | | |
| 91 | St. Louis College of Physicians and Surgeons.—R | | | | | 1 | 0 | | | | | | | | | | | | | | | 24 | 1 | | | 1 | 0 | 1 | 0 | 1 | 0 | | | | |
| 92 | American Medical College.—E | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | 0 | 1 | | | | | | |
| 93 | Homeopathic Medical College of Missouri.—H | | | | | | | | | | | | | | | | | | | | | 2 | 0 | | | | | 1 | 0 | | | | | | |
| 94 | Medical Department, Washington University.—R | | | 1 | 0 | 1 | 0 | | | | | | | | | | | | | 1 | 0 | 25 | 0 | 1 | 0 | | | 2 | 0 | | | | | | |
| 95 | University of the State of Missouri.—R | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Nebraska.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 96 | University of Nebraska College of Medicine.—R | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 97 | John A. Creighton Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 0 | | | | | | | | |
| 98 | Lincoln Medical College of Cotner University.—E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **New Hampshire.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 99 | Dartmouth Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **New York.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | Albany Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 |
| 101 | College of Physicians and Surgeons.—R | 1 | 0 | | | | | | | | | 1 | 0 | | | | | | | 1 | 0 | | | | | 1 | 0 | | | | | | | | |
| 102 | Cornell University Medical College.—R | 1 | 0 | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | |
| 103 | Eclectic Medical College.—E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 104 | Long Island College Hospital.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 105 | New York Homeopathic Medical College and Hospital.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 106 | New York Medical College and Hospital for Women.— | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 107 | University and Bellevue Hospital Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 108 | Syracuse University College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 109 | University of Buffalo, Medical Department.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **North Carolina.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110 | Leonard Medical School, Shaw University.—R | 3 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 111 | North Carolina Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 112 | Medical Department, University of North Carolina.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Ohio.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 113 | Western Reserve University Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 114 | Cleveland College of Physicians and Surgeons.—R | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | |
| 115 | Cleveland Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | 2 | 0 | | | | | | | | | | | | |
| 116 | Eclectic Medical Institute.—E | | | | | | | | | 2 | 0 | | | | | | | | | | | 3 | 0 | 5 | 3 | 0 | 1 | 2 | 0 | 4 | 0 | | | | |
| 117 | Medical College of Ohio.—R | | | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | |
| 118 | Pulte Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 119 | Miami Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | |
| 120 | Ohio Medical University.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 121 | Starling Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | |
| 122 | Toledo Medical College.—R | | | | | | | | | | | | | | | | | | | | | 6 | 0 | | | | | | | | | | | | |
| | **Oregon.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 123 | University of Oregon, Medical Department.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 124 | Medical Department, Willamette University.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Pennsylvania.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 125 | Temple College of Philadelphia, Dept. of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 126 | University of Pennsylvania, Department of Medicine.—R | | | | | | | | | 1 | 0 | 1 | 0 | 1 | 0 | | | | | | | | | | | 1 | 0 | | | | | | | 2 | 0 |
| 127 | Hahnemann Medical College and Hospital.—H | | | | | | | | | | | | | 2 | 0 | 1 | 0 | | | | | | | | | | | | | | | | | | |
| 128 | Jefferson Medical College.—R | | | | | | | 0 | 1 | | | 2 | 0 | 3 | 0 | | | 1 | 0 | 2 | 0 | 2 | 0 | 1 | 0 | 2 | 0 | | | | | | | 3 | 0 |
| 129 | Woman's Medical College of Pennsylvania.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | 1 | 0 |
| 130 | Medico-Chirurgical College of Philadelphia.—R | | | 1 | 0 | | | | | 1 | 0 | | | 2 | 0 | | | | | | | | | | | | | | | | | | | 2 | 0 |
| 131 | Western Pennsylvania Medical College.—R | | | | | | | | | | | | | | | | | | | | | 3 | 0 | | | | | | | | | | | | |
| | **South Carolina.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 132 | Medical College of the State of South Carolina.—R | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | |
| | **Tennessee.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 133 | Tennessee Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 134 | Knoxville Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 135 | Medical Department of University of Nashville.—R | 6 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | 1 | 0 | 1 | 0 | 4 | 0 | | |
| 136 | Vanderbilt University Medical Department.—R | 4 | 0 | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | 2 | 0 | | | | |
| 137 | University of Tennessee, Medical Department.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 1 | | | | |
| 138 | Meharry Medical College.—R | 7 | 2 | | | 4 | 0 | | | 2 | 0 | | | | | | | 1 | 2 | | | | | | | | | 2 | 0 | | | 0 | 1 | | |
| 139 | Memphis Hospital Medical College.—R | 3 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 8 | 0 | | |
| 140 | University of the South.—R | 3 | 0 | | | | | | | | | 0 | 1 | 1 | 0 | | | | | | | | | | | | | | | | | 3 | 0 | | |
| 141 | Chattanooga National Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 142 | Chattanooga Medical College.—R | 10 | 2 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 143 | University of West Tennessee, Medical Department.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Texas.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 144 | Medical Department Fort Worth University.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | |
| 145 | University of Texas Department of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 146 | Baylor University College of Medicine.—R | 1 | 0 | | | 1 | 0 | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | |
| 147 | Dallas Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 148 | Gate City Medical College, Texarkana.—R | † | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 149 | Southwestern University Medical College, Dallas.—R | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | College of Physicians and Surgeons, Dallas.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Vermont.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 151 | University of Vermont Medical Department.—R | | | | | | | 0 | 1 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | 2 | 0 |
| | **Virginia.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 152 | Medical College of Virginia.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 153 | University College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 154 | University of Virginia Department of Medicine.—R | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Wisconsin.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 155 | Milwaukee Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 156 | Wisconsin College of Physicians and Surgeons.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 157 | Canadian Colleges | | | | | | | 1 | 1 | 11 | 0 | | | | | | | | | 1 | 0 | 3 | 0 | | | 4 | 0 | | | | | | | 2 | 0 |
| 158 | Foreign | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 159 | Undergraduates and Miscellaneous | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Totals by States** | 102 | | 3 | | 17 | | 115 | | 78 | | 26 | | 19 | | 46 | | 16 | | 10 | | 653 | | 193 | | 188 | | 125 | | 24 | | 73 | | 43 | |
| | **Totals—Registered on Credentials or by Reciprocity** | | | | | | | | | 35 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Totals—Examined—Passed** | 95 | | 3 | | 16 | | 74 | | 40 | | 20 | | 15 | | 37 | | 14 | | 10 | | 635 | | 158 | | 178 | | 117 | | 22 | | 69 | | 42 | |
| | **Totals—Examined—Failed** | 7 | | 0 | | 1 | | 41 | | 3 | | 6 | | 4 | | 9 | | 2 | | 0 | | 18 | | 35 | | 10 | | 8 | | 2 | | 4 | | 1 | |
| | **Percentage of Failures** | 6.8 | | 0. | | 5.8 | | 35.0 | | 3.8 | | 23.0 | | 21.0 | | 19.5 | | 11.7 | | 0. | | 2.7 | | 18.0 | | 5.0 | | 6.4 | | 8.3 | | 5.4 | | 2.3 | |
| | Figures in italics shows those registered on credentials. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | * Examination consists of an oral or written examination. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | † Report for October examination missing. | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | | 15 | | 16 | | 17 | |

MINED BY STATE BOARDS DURING 1905.

| 19 | | 20 | | 21 | | 22 | | 23 | | 24 | | 25 | | 26 | | 27 | | 28 | | 29 | | 30 | | 31 | | 32 | | 33 | | 34 | | 35 | | 36 | | 37 | | 38 | | 39 | | 40 | | 41 | | 42 | | 43 | | 44 | | 45 | | 46 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Massachusetts. | | Michigan. | | Minnesota. | | Mississippi. | | Montana. | | Nebraska. | | Nevada. | | New Hampshire | | †New Jersey. | | New York. | | North Carolina. | | North Dakota. | | Ohio. | | Oklahoma. | | Oregon. | | Pennsylvania. | | Rhode Island. | | South Carolina | | South Dakota. | | Tennessee. | | Texas. | | Utah. | | Vermont. | | Virginia. | | Washington. | | West Virginia. | | Wisconsin. | | Wyoming. | | Totals. | Registered on Credentials. | Examined—Passed. | Examined—Failed. | Percentage of Failures. | No. of States having Representatives. | Number. |
| P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | P | F | | | | | | |
| .. | .. | .. | .. | .. | .. | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | .... | 7 | 0 | 0. | 1 | 1 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 33 | .... | 30 | 3 | 9.0 | 2 | 2 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .... | 2 | 0 | 0. | 2 | 3 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 0 | .. | .. | .. | .. | 37 | 3 | 30 | 4 | 11.7 | 3 | 4 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 14 | .... | 12 | 2 | 14.2 | 1 | 5 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 2 | 0 | 2 | 100.0 | 2 | 6 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | 10 | .... | 8 | 2 | 20.0 | 1 | 7 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | 20 | 5 | 6 | 9 | 60.0 | 4 | 8 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | | | | | 9 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 22 | .... | 11 | 11 | 50.0 | 2 | 10 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .... | 2 | 0 | 0. | 1 | 11 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 32 | 28 | 3 | 1 | 25.0 | 3 | 12 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | 4 | 3 | 1 | 0 | 0. | 2 | 13 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 4 | 1 | 0 | 0. | 2 | 14 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 10 | .... | 10 | 0 | 0. | 2 | 15 |
| 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | 45 | 1 | 38 | 6 | 13.6 | 10 | 16 |
| 1 | 0 | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 13 | .... | 9 | 4 | 30.7 | 7 | 17 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 10 | .... | 8 | 2 | 20.0 | 5 | 18 |
| .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | .... | 7 | 0 | 0. | 4 | 19 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | | | | | 20 |
| .. | .. | .. | .. | .. | .. | .. | .. | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .... | 2 | 0 | 0. | 1 | 21 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .... | 1 | 1 | 50.0 | 2 | 22 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | 27 | .... | 26 | 1 | 3.7 | 4 | 23 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | | | | | 24 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 0 | .. | .. | 1 | 0 | 0 | 1 | 1 | 0 | .. | .. | 1 | 0 | 2 | 1 | .. | .. | 1 | 0 | 3 | 0 | .. | .. | .. | .. | 2 | 0 | .. | .. | 15 | 1 | .. | 8 | .... | 5 | 3 | 37.5 | 1 | 25 |
| .. | .. | 1 | 0 | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 205 | 1 | 198 | 6 | 2.9 | 17 | 26 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 51 | .... | 48 | 3 | 5.8 | 8 | 27 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 16 | .... | 15 | 1 | 6.2 | 1 | 28 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 10 | .... | 10 | 0 | 0. | 2 | 29 |
| .. | .. | .. | .. | .. | .. | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | 31 | .... | 25 | 6 | 19.3 | 9 | 30 |
| .. | .. | 1 | 0 | 5 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 10 | 0 | .. | .. | 14 | .... | 11 | 3 | 21.3 | 1 | 31 |
| .. | .. | 2 | 0 | 2 | 0 | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 0 | .. | .. | .. | .. | 1 | 0 | .. | .. | 10 | 0 | .. | .. | 135 | .... | 134 | 1 | 0.7 | 16 | 32 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 6 | 0 | .. | .. | 88 | .... | 86 | 2 | 2.3 | 14 | 33 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 12 | .... | 12 | 0 | 0. | 3 | 34 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 42 | .... | 37 | 5 | 11.9 | 5 | 35 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 28 | .... | 28 | 0 | 0. | 1 | 36 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | | | | | 37 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 26 | .... | 22 | 4 | 15.3 | 2 | 37 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 88 | .... | 76 | 12 | 13.6 | 1 | 38 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | .... | 4 | 3 | 42.8 | 1 | 39 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | .... | 3 | 1 | 25.0 | 1 | 40 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 13 | .... | 9 | 4 | 30.7 | 1 | 41 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | | | | | 42 |
| .. | .. | .. | .. | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 11 | .... | 11 | 0 | 0. | 1 | 43 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | 58 | .... | 50 | 8 | 13.7 | 8 | 44 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 13 | .... | 13 | 0 | 0. | 1 | 45 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | | | | | 46 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 69 | .... | 69 | 0 | 0. | 1 | 47 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .... | 2 | 0 | 0. | 1 | 48 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 18 | .... | 18 | 0 | 0. | 3 | 49 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | | | | | 50 |
| .. | .. | 1 | 1 | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 1 | 1 | .. | .. | 1 | 2 | .. | .. | 15 | .... | 12 | 3 | 20.0 | 8 | 51 |
| .. | .. | .. | .. | .. | .. | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | .. | .. | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | 16 | .... | 13 | 3 | 18.7 | 8 | 52 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 19 | .... | 10 | 9 | 47.3 | 10 | 53 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | | | | | 54 |
| .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .... | 0 | 1 | 100.0 | 1 | 55 |
| .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | 0 | 1 | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | 0 | 1 | .. | .. | 5 | 1 | .. | .. | .. | .. | .. | .. | 2 | 2 | .. | .. | 23 | .... | 16 | 7 | 30.4 | 10 | 56 |
| .. | .. | .. | .. | .. | .. | 0 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | 2 | 2 | .. | .. | 15 | .... | 9 | 6 | 40.0 | 10 | 57 |
| .. | .. | .. | .. | .. | .. | 5 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | 6 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | .... | 2 | 5 | 71.4 | 3 | 58 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 74 | .... | 70 | 4 | 5.4 | 10 | 59 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | | | | | 60 |
| 1 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 1 | 0 | 1 | 0 | .. | .. | 1 | 0 | .. | .. | 19 | 4 | 3 | 0 | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | 1 | 1 | .. | .. | 3 | 2 | .. | .. | .. | .. | 17 | .... | 17 | 0 | 0. | 1 | 61 |
| 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .. | 71 | .... | 51 | 20 | 28.1 | 18 | 62 |
| 5 | 0 | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 0 | 0 | 1 | 1 | 1 | .. | .. | 1 | 0 | .. | .. | 9 | 7 | 5 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | 2 | 0 | .. | .. | 6 | 0 | .. | .. | .. | .. | 13 | .... | 5 | 8 | 61.5 | 5 | 63 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 0 | .. | .. | 1 | 0 | 1 | 0 | .. | .. | 3 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 58 | .... | 49 | 9 | 15.5 | 14 | 64 |
| 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 24 | .... | 24 | 0 | 0. | 3 | 65 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 9 | 2 | .. | .. | .. | .. | .. | .. | 4 | 1 | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | 2 | 0 | .. | .. | 3 | 0 | .. | .. | .. | .. | 12 | .... | 12 | 0 | 0. | 3 | 66 |
| 0 | 1 | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 5 | .. | .. | 0 | 1 | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .. | .. | .. | 1 | 0 | .. | .. | 12 | 2 | .. | .. | 72 | .... | 58 | 14 | 19.4 | 10 | 66 |
| 8 | 0 | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .... | 2 | 0 | 0. | 1 | 67 |
| 3 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 65 | .... | 29 | 36 | 55.3 | 12 | 68 |
| 44 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | | | | | 69 |
| 46 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | 6 | .... | 6 | 0 | 0. | 3 | 70 |
| .. | .. | 5 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | 14 | .... | 9 | 5 | 35.7 | 4 | 71 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 54 | .... | 54 | 0 | 0. | 8 | 72 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 58 | .... | 52 | 6 | 10.3 | 6 | 73 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | .... | 7 | 0 | 0. | 3 | 74 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | | | | | 75 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | | | | | 76 |
| .. | .. | 43 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | 2 | 0 | .. | .. | 1 | 0 | 1 | 0 | .. | .. | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 55 | .... | 55 | 0 | 0. | 10 | 77 |
| .. | .. | 3 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | 3 | 0 | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | .... | 8 | 0 | 0. | 4 | 78 |
| .. | .. | .. | .. | 61 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 1 | 0 | .. | .. | 82 | .... | 70 | 12 | 14.6 | 5 | 79 |
| .. | .. | .. | .. | 7 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ..

| Number. | Name of College. | 1 Alabama. P | 1 Alabama. F | 2 Arizona. P | 2 Arizona. F | 3 Arkansas. P | 3 Arkansas. F | 4 California. P | 4 California. F | 5 *Colorado. P | 5 *Colorado. F | 6 Connecticut. P | 6 Connecticut. F | 7 Delaware. P | 7 Delaware. F | 8 D. of Columbia P | 8 D. of Columbia F | 9 Florida. P | 9 Florida. F | 10 Idaho. P | 10 Idaho. F | 11 Illinois. P | 11 Illinois. F | 12 Indiana P | 12 Indiana F | 13 Iowa. P | 13 Iowa. F | 14 Kansas. P | 14 Kansas. F | 15 Kentucky. P | 15 Kentucky. F | 16 Louisiana. P | 16 Louisiana. F | 17 Maine. P | 17 Maine. F | 18 Maryland. P | 18 Maryland. F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Alabama.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Birmingham Medical College.—R | 7 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Medical College of Alabama.—R | 34 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Arkansas.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Medical Department Arkansas University.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | |
| | **California.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Cooper Medical College.—R | | | | | | | 30 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Medical Department University of California.—R | | | | | | | 17 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | California Medical College.—E | | | | | | | 2 | 3 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Hahnemann Medical College of the Pacific.—H | | | | | | | 10 | 4 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | College of Physicians and Surgeons, San Francisco.—R | | | | | | | 10 | 13 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Oakland College of Medicine and Surgery.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | College of Medicine, University of Southern California.—R | | | 3 | 0 | | | 11 | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | College of Physicians and Surgeons, Los Angeles.—R | | | | | | | 2 | 0 | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | |
| | **Colorado.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Denver and Gross College of Medicine.—R | | | 1 | 0 | | | 0 | 2 | 28 | 2 | | | | | | | | | 6 | 0 | | | | | | | 1 | 1 | | | | | | | | |
| 13 | Denver Homeopathic College.—H | | | | | | | | | 4 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | Colorado School of Medicine.—R | | | | | | | | | 5 | 0 | | | | | | | | | 3 | 0 | | | | | | | 1 | 0 | | | | | | | | |
| | **Connecticut.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Yale University, Department of Medicine.—R | | | 1 | 0 | | | | | | | 20 | 0 | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | |
| | **District of Columbia.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | George Washington University, Department of Medicine | | | | | | | | | 1 | 0 | | | | | 36 | 9 | | | | | 1 | 0 | | | | | | | | | | | | | | |
| 17 | Georgetown University, School of Medicine.—R | | | | | | | 0 | 1 | 1 | 0 | 2 | 2 | 1 | 0 | 9 | 3 | | | | | | | | | | | | | | | | | | | | |
| 18 | Howard University, Medical Department.—R | | | | | | | | | | | | | | | 7 | 4 | 1 | 0 | | | 1 | 0 | 1 | 0 | 1 | 0 | | | | | | | | | 3 | 0 |
| | **Georgia.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Atlanta College of Physicians and Surgeons.—R | 4 | 0 | | | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Georgia College of Eclectic Medicine and Surgery.—E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | |
| 21 | Medical College of Georgia.—R | | | | | | | | | 1 | 0 | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | | | |
| | **Illinois.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | American Medical Missionary College.—R | | | 1 | 0 | | | 1 | 2 | 1 | 0 | | | | | | | | | | | 3 | 0 | | | | | 1 | 0 | | | | | | | | |
| 23 | Bennett College of Eclectic Medicine and Surgery.—E | | | | | | | | | | | | | | | | | | | | | 24 | 0 | | | | | | | | | | | | | | |
| 24 | Chicago Homeopathic Medical College.—H | 1 | 0 | | | | | 0 | 2 | | | | | | | | | | | 0 | 2 | | | 2 | 0 | 0 | 1 | 2 | 0 | | | | | | | | |
| 25 | College of Medicine and Surgery.—Ph.M | | | | | | | | | 0 | 2 | | | | | | | | | | | 6 | 4 | | | | | | | | | | | | | | |
| 26 | College of Physicians and Surgeons, Chicago.—R | | | | | 1 | 0 | 5 | 3 | 9 | 1 | | | | | 0 | 1 | | | 1 | 0 | 162 | 0 | 15 | 0 | 7 | 3 | | | | | 1 | 0 | | | | |
| 27 | Hahnemann Medical College and Hospital.—H | | | 0 | 1 | | | 0 | 2 | 2 | 0 | | | | | | | | | 1 | 0 | 42 | 0 | 2 | 1 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | | | | |
| 28 | Harvey Medical College.—R | | | | | | | | | 0 | 1 | | | | | | | | | | | 15 | 1 | | | | | | | | | | | | | | |
| 29 | Hering Medical College.—H | | | | | | | | | 3 | 0 | | | | | | | | | | | 15 | 1 | | | | | | | | | 1 | 0 | | | | |
| 30 | Illinois Medical College.—R | | | 1 | 1 | | | | | 1 | 0 | | | | | | | | | 1 | 0 | 12 | 1 | | | | | 1 | 0 | | | | | | | | |
| 31 | Jenner Medical College.—R | | | | | | | 0 | 1 | | | | | | | | | | | 1 | 0 | 20 | 2 | 19 | 3 | 0 | 1 | 1 | 0 | 1 | 0 | | | | | 0 | 1 |
| 32 | Northwestern University Medical School.—R | | | 1 | 0 | | | 6 | 0 | 5 | 0 | | | | | | | | | | | 13 | 5 | 1 | 0 | | | | | | | | | | | | |
| 33 | Rush Medical College.—R | 1 | 1 | 1 | 0 | 1 | 0 | 5 | 1 | 7 | 0 | | | | | | | | | 3 | 0 | 92 | 0 | 7 | 0 | 7 | 0 | 3 | 0 | | | 1 | 0 | | | | |
| 34 | National Medical University | | | | | | | | | | | | | | | | | | | 4 | 1 | 85 | 0 | 14 | 0 | 8 | 2 | 1 | 0 | | | | | 1 | 0 | | |
| 35 | American College of Medicine and Surgery.—E | | | | | | | 0 | 2 | | | | | | | | | | | | | 15 | 0 | 1 | 0 | 3 | 0 | | | | | | | | | | |
| 36 | Dearborn Medical College, Chicago.—R | | | | | | | 0 | 1 | | | | | | | | | | | | | 36 | 3 | 2 | 0 | | | | | | | | | | | | |
| | **Indiana.** | | | | | | | | | | | | | | | | | | | | | 28 | 0 | | | | | | | | | | | | | | |
| 37 | Central College of Physicians and Surgeons.—R | | | | | | | | | | | | | | | | | | | | | | | 21 | 4 | | | | | 1 | 0 | | | | | | |
| 38 | Medical College of Indiana.—R | | | | | | | 0 | 2 | 2 | 0 | | | | | | | | | | | 1 | 0 | 76 | 15 | | | | | | | | | | | | |
| 39 | Physio-Medical College of Indiana.—Ph.M | | | | | | | | | | | | | | | | | | | | | | | 4 | 3 | | | | | | | | | | | | |
| 40 | Eclectic Medical College of Indiana.—E | | | | | | | | | 0 | 1 | | | | | | | | | | | | | 3 | 1 | | | | | | | | | | | | |
| 41 | Fort Wayne College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | 9 | 4 | | | | | | | | | | | | |
| 42 | Indiana University School of Medicine.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | 3 | 0 | | | | | | | | | | | | |
| | **Iowa.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | Drake University College of Medicine.—R | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 44 | Keokuk Medical College, College of Physicians and Surgeons.—R | | | | | | | 0 | 1 | 2 | 0 | | | | | | | | | | | | | | | 13 | 0 | | | | | | | | | | |
| 45 | Sioux City College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | 0 | 4 | 2 | 0 | 45 | 6 | 2 | 0 | | | | | | | | |
| 46 | State University of Iowa, Homeopathic Medical Dept.—H | | | | | | | | | | | | | | | | | | | | | | | | | 13 | 0 | | | | | | | | | | |
| 47 | State University of Iowa, Medical Department.—R | | | 1 | 0 | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | |
| | **Kansas.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 48 | College of Physicians and Surgeons of Kansas City.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | 68 | 1 | | | | | | | | | | |
| 49 | Kansas Medical College.—R | | | | | | | | | 3 | 0 | | | | | | | | | | | | | | | | | 2 | 0 | | | | | | | | |
| 50 | School of Medicine, University of Kansas.—R | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | 15 | 0 | | | | | | | | |
| | **Kentucky.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | Hospital College of Medicine.—R | 1 | 0 | | | 1 | 0 | | | 3 | 0 | | | | | | | | | | | 0 | 1 | 4 | 7 | | | 2 | 0 | 3 | 0 | 1 | 0 | | | | |
| 52 | Kentucky School of Medicine.—R | | | 1 | 0 | | | | | | | | | | | | | | | | | 2 | 0 | 5 | 0 | | | 1 | 0 | 1 | 0 | | | | | | |
| 53 | Louisville Medical College.—R | 2 | 0 | | | 0 | 1 | | | 2 | 0 | | | | | | | | | | | 1 | 0 | 2 | 2 | | | 2 | 0 | | | 1 | 2 | | | | |
| 54 | Louisville National Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | |
| 55 | Southwestern Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 56 | Medical Department, University of Louisville.—R | 2 | 0 | 0 | 1 | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | |
| 57 | Kentucky University, Medical Department.—R | 1 | 0 | | | | | | | | | | | | | | | | | | | | | 2 | 2 | | | | | | | | | | | | |
| | **Louisiana.** | | | | | | | | | | | | | | | | | | | | | | | 3 | 0 | | | 3 | 0 | 1 | 0 | | | | | | |
| 58 | Flint Medical College of New Orleans University.—R | | | | | | | 1 | 1 | | | | | | | | | 1 | 0 | | | 2 | 0 | 3 | 3 | | | | | | | | | | | | |
| 59 | Tulane University, Medical Department.—R | 6 | 0 | | | 1 | 0 | 0 | 1 | | | | | | | | | | | | | 1 | 0 | 6 | 2 | 1 | 0 | 1 | 1 | | | | | | | | |
| | **Maine.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | Medical School of Maine, Bowdoin College.—R | | | | | | | | | | | | | | | | | 2 | 0 | | | | | | | | | | | | | 1 | 4 | | | | |
| | **Maryland.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 47 | 0 | | | | |
| 61 | Baltimore Medical College.—R | 1 | 0 | | | | | | | 1 | 0 | 2 | 1 | 4 | 0 | 1 | 0 | 1 | 0 | | | 3 | 0 | 1 | 0 | | | | | | | | | 18 | 0 | | |
| 62 | Baltimore University School of Medicine.—R | | | | | | | | | 2 | 0 | 0 | 1 | 1 | 7 | | | | | | | | | | | | | | | | | 1 | 0 | 1 | 0 | 12 | 7 |
| 63 | College of Physicians and Surgeons of Baltimore.—R | | | 1 | 0 | | | 1 | 1 | 1 | 0 | 4 | 1 | | | | | | | | | | | | | | | | | | | 1 | 0 | 0 | 3 | 1 | 4 |
| 64 | Medical Department, Johns Hopkins University.—R | 1 | 0 | | | | | 3 | 0 | 1 | 0 | 2 | 0 | | | 4 | 0 | 1 | 0 | | | 1 | 0 | | | | | | | | | | | 2 | 0 | 13 | 2 |
| 65 | Southern Homeopathic Medical College.—H | | | | | | | | | | | | | 2 | 0 | 0 | 1 | | | | | 2 | 0 | 1 | 0 | 1 | 0 | | | | | 1 | 0 | 1 | 0 | 13 | 0 |
| 66 | University of Maryland, School of Medicine.—R | | | | | | | 0 | 1 | | | 2 | 1 | | | 0 | 1 | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | 8 | 0 |
| 67 | Woman's Medical College of Baltimore.—R | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | 40 | 16 |
| 68 | Maryland Medical College.—R | 2 | 0 | | | 2 | 0 | | | | | 1 | 3 | 1 | 0 | | | | | | | | | | | | | | | | | 1 | 0 | | | 2 | 0 |
| | **Massachusetts.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 16 | 33 |
| 69 | Boston University School of Medicine.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 70 | College of Physicians and Surgeons.—R | | | | | | | | | | | 1 | 1 | | | | | | | | | 1 | 0 | | | | | | | | | | | 6 | 0 | | |
| 71 | Harvard University Medical School.—R | | | | | | | | | 2 | 0 | 2 | 0 | | | | | | | | | 3 | 0 | | | | | | | | | | | 6 | 0 | 1 | 0 |
| 72 | Tufts College Medical School.—R | | | | | | | | | 2 | 0 | 2 | 2 | | | | | | | | | | | | | | | | | | | | | 4 | 0 | | |
| | **Michigan.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | |
| 73 | Detroit College of Medicine.—R | | | | | | | | | 3 | 0 | | | | | | | 1 | 0 | | | 1 | 0 | 1 | 0 | | | | | | | | | | | | |
| 74 | Detroit Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | Michigan College of Medicine and Surgery.—R | | | 0 | 1 | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 76 | Grand Rapids Medical College.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 77 | University of Michigan Dept. of Medicine and Surgery.—R | | | 3 | 0 | | | 3 | 1 | 4 | 0 | | | | | | | 4 | 0 | 1 | 1 | 1 | 0 | 4 | 0 | 2 | 0 | | | | | | | | | | |
| 78 | University of Michigan Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | |
| | **Minnesota.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 79 | College of Homeopathic Med. and Surg., Univ. of Minn.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 | College of Medicine and Surgery, Univ. of Minnesota.—R | | | | | | | 2 | 0 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 81 | Medical Department of Hamline University.—R | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | |
| | **Missouri.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 82 | Medico-Chirurgical College.—R | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | 6 | 0 | | | | | | | | |
| 83 | University Medical College of Kansas City.—R | | | | | | | 1 | 0 | 2 | 0 | | | | | | | | | | | | | | | | | 35 | 1 | | | | | | | | |
| 84 | Kansas City Hahnemann Medical College.—H | | | | | | | | | | | | | | | | | | | 1 | 0 | | | 1 | 0 | 2 | 0 | 2 | 1 | | | | | | | | |
| 85 | Kansas City Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | 26 | 0 | | | | | | | | |
| 86 | Eclectic Medical University.—E | | | | | | | | | | | | | | | | | | | 1 | 0 | 0 | 1 | | | | | 1 | 1 | | | | | | | | |
| 87 | Central Medical College.—R | | | | | | | | | 2 | 1 | | | | | | | | | | | | | | | | | 8 | 2 | | | | | | | | |
| 88 | Ensworth Medical College.—R | | | | | | | | | 1 | 0 | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | |
| 89 | Barnes Medical College.—R | | | 1 | 0 | 1 | 0 | | | 4 | 3 | | | | | | | | | | | | | | | 0 | 2 | 6 | 4 | | | | | | | | |
| 90 | Marion Sims-Beaumont College of Medicine.—R | | | | | 1 | 0 | 0 | 1 | 4 | 0 | | | | | | | | | | | 21 | 1 | 2 | 0 | 5 | 2 | 3 | 0 | 0 | 1 | | | | | | |
| 91 | St. Louis College of Physicians and Surgeons.—R | | | | | 1 | 0 | | | 3 | 0 | | | | | | | | | | | 51 | 2 | 0 | 1 | 2 | 1 | 4 | 0 | 1 | 0 | 1 | 0 | | | | |
| 92 | American Medical College.—E | | | | | | | | | | | | | | | | | | | | | 25 | 3 | | | 1 | 2 | 1 | 0 | 1 | 0 | | | | | | |
| 93 | Homeopathic Medical College of Missouri.—H | | | | | | | | | 1 | 0 | | | | | | | | | | | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | | | | | | | | |
| 94 | Medical Department, Washington University.—R | | | 1 | 0 | 2 | 0 | 2 | 1 | | | | | | | | | | | | | 2 | 0 | | | 1 | 0 | 1 | 0 | | | | | | | | |
| 95 | University of the State of Missouri.—R | 1 | 0 | | | 1 | 0 | 1 | 0 | 1 | 0 | | | | | | | | | 1 | 0 | 26 | 0 | 1 | 0 | | | 2 | 1 | | | | | | | | |
| | **Nebraska.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 96 | University of Nebraska College of Medicine.—R | | | | | | | 1 | 1 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 97 | John A. Creighton Medical College.—R | | | | | | | 0 | 1 | 2 | 0 | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | |
| 98 | Lincoln Medical College of Cotner University.—E | | | | | | | | | 0 | 1 | | | | | | | | | | | 1 | 0 | | | 2 | 0 | | | | | | | | | | |
| | **New Hampshire.** | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | |
| 99 | Dartmouth Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **New York.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | Albany Medical College.—R | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | 1 | 0 | | |
| 101 | College of Physicians and Surgeons.—R | 1 | 0 | | | | | 3 | 1 | 3 | 0 | 5 | 0 | | | | | 1 | 0 | | | 1 | 0 | 2 | 1 | 1 | 0 | | | 1 | 0 | | | 1 | 0 | | |
| 102 | Cornell University Medical College.—R | 1 | 0 | 2 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | 2 | 0 | | | | | | | 1 | 0 | | | | |
| 103 | Eclectic Medical College.—E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 104 | Long Island College Hospital.—R | | | | | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 105 | New York Homeopathic Medical College and Hospital.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 106 | New York Medical College and Hospital for Women.— | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 107 | University and Bellevue Hospital Medical College.—R | | | | | | | 2 | 0 | 3 | 0 | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | 1 | 0 |
| 108 | Syracuse University College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 109 | University of Buffalo, Medical Department.—R | | | 1 | 0 | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| | **North Carolina.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110 | Leonard Medical School, Shaw University.—R | 3 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 1 | | | | | | |
| 111 | North Carolina Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 112 | Medical Department, University of North Carolina.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Ohio.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 113 | Western Reserve University Medical College.—R | | | | | | | | | 2 | 0 | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | |
| 114 | Cleveland College of Physicians and Surgeons.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 115 | Cleveland Homeopathic Medical College.—H | | | | | | | | | | | 1 | 0 | | | | | | | | | 2 | 0 | | | | | | | 2 | 0 | | | | | | |
| 116 | Eclectic Medical Institute.—E | | | | | | | | | 3 | 0 | | | | | | | | | | | 3 | 1 | 6 | 5 | 0 | 3 | 3 | 0 | 4 | 0 | | | | | | |
| 117 | Medical College of Ohio.—R | | | | | | | | | 3 | 0 | | | | | | | | | | | | | 1 | 0 | | | 1 | 1 | 1 | 0 | | | | | | |
| 118 | Pulte Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 119 | Miami Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | 3 | 0 | | | | | | | | | | | | |
| 120 | Ohio Medical University.—R | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 121 | Starling Medical College.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | 1 | 0 | | | 1 | 0 | 1 | 0 | | | | | | |
| 122 | Toledo Medical College.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | 6 | 0 | | | | | | | | | | | | | | |
| | **Oregon.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 123 | University of Oregon, Medical Department.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 124 | Medical Department, Willamette University.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Pennsylvania.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 125 | Temple College of Philadelphia, Dept. of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 126 | University of Pennsylvania, Department of Medicine.—R | 1 | 0 | 1 | 0 | | | | | 4 | 2 | 4 | 0 | 1 | 0 | 1 | 0 | | | | | 2 | 0 | | | 2 | 0 | 1 | 0 | | | | | 2 | 0 | 2 | 1 |
| 127 | Hahnemann Medical College and Hospital.—H | | | | | | | | | | | | | 2 | 0 | 2 | 1 | | | | | | | | | | | | | | | | | | | 2 | 0 |
| 128 | Jefferson Medical College.—R | 1 | 0 | 2 | 0 | | | 0 | 2 | 2 | 0 | 2 | 0 | 3 | 0 | | | 1 | 0 | 3 | 0 | 2 | 0 | 1 | 0 | 3 | 0 | 1 | 0 | | | 1 | 0 | 4 | 0 | | |
| 129 | Woman's Medical College of Pennsylvania.—R | | | | | | | | | | | 1 | 0 | | | 1 | 0 | | | | | | | 1 | 0 | 1 | 0 | | | | | 2 | 0 | 1 | 0 | | |
| 130 | Medico-Chirurgical College of Philadelphia.—R | | | 1 | 0 | | | | | 2 | 0 | | | 3 | 0 | | | | | | | | | | | | | | | | | | | 3 | 0 | | |
| 131 | Western Pennsylvania Medical College.—R | | | | | | | | | 4 | 0 | | | | | | | | | | | 3 | 0 | | | | | | | | | | | | | | |
| | **South Carolina.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 132 | Medical College of the State of South Carolina.—R | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | 1 | 0 | | | | | | |
| | **Tennessee.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 133 | Tennessee Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 134 | Knoxville Medical College.—R | 1 | 0 | | | 0 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 135 | Medical Department of University of Nashville.—R | 6 | 2 | | | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | 2 | 0 | 2 | 0 | 5 | 0 | | | | |
| 136 | Vanderbilt University Medical Department.—R | 4 | 0 | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | 3 | 0 | 2 | 0 | | | | |
| 137 | University of Tennessee, Medical Department.—R | 0 | 1 | | | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | 4 | 1 | | | | | | |
| 138 | Meharry Medical College.—R | 7 | 2 | | | 4 | 0 | | | 5 | 0 | | | | | | | 1 | 2 | | | 2 | 0 | | | 0 | 1 | 3 | 2 | | | 0 | 1 | | | | |
| 139 | Memphis Hospital Medical College.—R | 4 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | 14 | 3 | | | | |
| 140 | University of the South.—R | 4 | 0 | | | | | | | | | 0 | 1 | 1 | 0 | | | | | 1 | 1 | | | | | | | | | | | 11 | 0 | | | 0 | 2 |
| 141 | Chattanooga National Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 142 | Chattanooga Medical College.—R | 11 | 3 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 143 | University of West Tennessee, Medical Department.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Texas.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 144 | Medical Department Fort Worth University.—R | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | |
| 145 | University of Texas Department of Medicine.—R | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 146 | Baylor University College of Medicine.—R | 1 | 0 | | | 1 | 0 | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | |
| 147 | Dallas Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | |
| 148 | Gate City Medical College, Texarkana.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 149 | Southwestern University Medical College, Dallas.—R | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | College of Physicians and Surgeons, Dallas.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Vermont.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 151 | University of Vermont Medical Department.—R | | | | | | | 1 | 1 | 1 | 0 | 5 | 0 | | | | | | | | | | | | | | | | | | | | | 2 | 0 | | |
| | **Virginia.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 152 | Medical College of Virginia.—R | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 153 | University College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 154 | University of Virginia Department of Medicine.—R | 3 | 0 | | | | | | | 1 | 0 | | | | | 3 | 0 | | | | | | | | | | | | | | | | | | | 1 | 0 |
| | **Wisconsin.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 155 | Milwaukee Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 156 | Wisconsin College of Physicians and Surgeons.—R | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | |
| 157 | Canadian Colleges | | | 2 | 0 | | | 3 | 2 | 11 | 0 | 0 | 1 | | | | | 3 | 0 | 10 | 1 | 1 | 0 | 7 | 0 | | | | | | | | | 3 | 0 | | |
| 158 | Foreign | | | | | | | 1 | 0 | 1 | 1 | 1 | 0 | | | | | | | 1 | 0 | | | | | 1 | 0 | 1 | 0 | | | 1 | 0 | | | | |
| | **Totals by States** | 124 | | 30 | | 30 | | 202 | | 193 | | 75 | | 26 | | 85 | | 23 | | 42 | | 766 | | 284 | | 227 | | 166 | | 35 | | 107 | | 60 | | 187 | |
| | **Totals—Registered on Credentials or by Reciprocity** | | | | | | | | | 87 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Totals—Examined—Passed** | 112 | | 26 | | 26 | | 125 | | 138 | | 61 | | 19 | | 65 | | 21 | | 36 | | 736 | | 230 | | 201 | | 149 | | 32 | | 97 | | 57 | | 118 | |
| | **Totals—Examined—Failed** | 12 | | 4 | | 4 | | 77 | | 18 | | 14 | | 7 | | 20 | | 2 | | 6 | | 30 | | 54 | | 26 | | 17 | | 3 | | 10 | | 3 | | 69 | |
| | **Percentage of Failures** | 9.7 | | 13.3 | | 13.3 | | 38.1 | | 11.5 | | 18.7 | | 26.9 | | 23.5 | | 8.7 | | 14.3 | | 3.9 | | 19.0 | | 11.4 | | 10.2 | | 8.6 | | 9.3 | | 5.0 | | 36.9 | |
| | Figures in italics shows those registered on credentials. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | * Examination consists of an oral or written examination. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | † Report for October examination missing. | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | | 15 | | 16 | | 17 | | 18 | |

# EXAMINED BY STATE BOARDS DURING 1905.

| 20 Michigan. | | 21 Minnesota. | | 22 Mississippi. | | 23 Montana. | | 24 Nebraska. | | 25 Nevada. | | 26 New Hampshire | | 27 †New Jersey. | | 28 New York. | | 29 North Carolina. | | 30 North Dakota. | | 31 Ohio. | | 32 Oklahoma. | | 33 Oregon. | | 34 Pennsylvania. | | 35 Rhode Island. | | 36 South Carolina | | 37 South Dakota. | | 38 Tennessee. | | 39 Texas. | | 40 Utah. | | 41 Vermont. | | 42 Virginia. | | 43 Washington. | | 44 West Virginia. | | 45 Wisconsin. | | 46 Wyoming. | | Totals. | Registered on Credentials. | Examined—Passed. | Examined—Failed. | Percentage of Failures. | No. of States having Representatives. | Number. |
|---|---|---

| Number. | Name of College. | 1 Alabama. P | 1 Alabama. F | 2 Arizona. P | 2 Arizona. F | 3 Arkansas. P | 3 Arkansas. F | 4 California. P | 4 California. F | 5 *Colorado. P | 5 *Colorado. F | 6 Connecticut. P | 6 Connecticut. F | 7 Delaware. P | 7 Delaware. F | 8 D. of Columbia P | 8 D. of Columbia F | 9 Florida. P | 9 Florida. F | 10 Idaho. P | 10 Idaho. F | 11 Illinois. P | 11 Illinois. F | 12 Indiana P | 12 Indiana F | 13 Iowa. P | 13 Iowa. F | 14 Kansas. P | 14 Kansas. F | 15 Kentucky. P | 15 Kentucky. F | 16 Louisiana. P | 16 Louisiana. F | 17 Maine. P | 17 Maine. F | 19 Massachusetts. P | 19 Massachusetts. F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Alabama.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Birmingham Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Medical College of Alabama.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | |
| | **Arkansas.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Medical Department Arkansas University.—R | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **California.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Cooper Medical College.—R | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Medical Department University of California.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | California Medical College.—E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Hahnemann Medical College of the Pacific.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | College of Physicians and Surgeons, San Francisco.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Oakland College of Medicine and Surgery.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | College of Medicine, University of Southern California.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | College of Physicians and Surgeons, Los Angeles.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Colorado.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Denver and Gross College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Denver Homeopathic College.—H | | | | | | | | | *1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | Colorado School of Medicine.—R | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | 1 | 0 | | | | | | | | |
| | **Connecticut.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Yale University, Department of Medicine.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **District of Columbia.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | George Washington University, Department of Medicine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | Georgetown University, School of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | 1 | 0 | | |
| 18 | Howard University, Medical Department.—R | | | | | | | 0 | 1 | 1 | 0 | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | |
| | **Georgia.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Atlanta College of Physicians and Surgeons.—R | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Georgia College of Eclectic Medicine and Surgery.—E | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | Medical College of Georgia.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | 0 | 1 | | |
| | **Illinois.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | American Medical Missionary College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | Bennett College of Eclectic Medicine and Surgery.—E | | | 1 | 0 | | | 0 | 1 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | Chicago Homeopathic Medical College.—H | | | | | | | 0 | 2 | 1 | 0 | | | | | | | | | 1 | 1 | 1 | 0 | | | | | | | | | | | | | | |
| 25 | College of Medicine and Surgery.—Ph.M | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | College of Physicians and Surgeons, Chicago.—R | | | | | | | 0 | 1 | 5 | 4 | | | | | | | | | 0 | 1 | 1 | 0 | | | 1 | 1 | | | | | | | | | | |
| 27 | Hahnemann Medical College and Hospital.—H | | | | | | | | | 4 | 1 | | | | | | | | | | | 1 | 0 | | | 0 | 1 | 1 | 2 | | | | | | | | |
| 28 | Harvey Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | Hering Medical College.—H | 1 | 0 | | | | | 0 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Illinois Medical College.—R | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | Jenner Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | Northwestern University Medical School.—R | | | | | 1 | 0 | 0 | 2 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | Rush Medical College.—R | 1 | 0 | | | 1 | 1 | 0 | 3 | 15 | 0 | | | | | | | | | 1 | 0 | | | | | 1 | 0 | 0 | 1 | | | | | | |
| 34 | National Medical University | | | | | | | | | 1 | 0 | | | | | | | | | | | 3 | 1 | 2 | 0 | | | 3 | 0 | | | | | | | | |
| 35 | American College of Medicine and Surgery.—E | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | Dearborn Medical College, Chicago.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Indiana.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | Central College of Physicians and Surgeons.—R | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | Medical College of Indiana.—R | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | Physio-Medical College of Indiana.—Ph.M | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | Eclectic Medical College of Indiana.—E | 1 | 0 | | | | | | | | | | | | | | | | | | | | | 0 | 2 | | | | | 0 | 1 | | | | | | |
| 41 | Fort Wayne College of Medicine.—R | | | | | | | | | 0 | 1 | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | |
| 42 | Indiana University School of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Iowa.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | Drake University College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 44 | Keokuk Medical College, College of Physicians and Surgeons.—R | 0 | 1 | 0 | 1 | | | | | 7 | 0 | | | | | | | | | | | | | 0 | 1 | | | 1 | 2 | | | | | | | | |
| 45 | Sioux City College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 46 | State University of Iowa, Homeopathic Medical Dept.—H | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | |
| 47 | State University of Iowa, Medical Department.—R | | | 1 | 0 | | | 0 | 1 | 4 | 3 | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | |
| | **Kansas.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 48 | College of Physicians and Surgeons of Kansas City.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 49 | Kansas Medical College.—R | | | | | | | | | 2 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | Schools of Medicine, University of Kansas.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Kentucky.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | Hospital College of Medicine.—R | | | | | | | 0 | 1 | 1 | 0 | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | |
| 52 | Kentucky School of Medicine.—R | 1 | 0 | | | | | 1 | 1 | 1 | 0 | | | | | | | | | 1 | 0 | 1 | 0 | 0 | 1 | | | 1 | 1 | 1 | 0 | 0 | 2 | | | | |
| 53 | Louisville Medical College.—R | 3 | 1 | | | | | | | 1 | 0 | | | | | | | | | | | 0 | 1 | 1 | 0 | | | 1 | 0 | | | | | | | | |
| 54 | Louisville National Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | Southwestern Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 56 | Medical Department, University of Louisville.—R | | | | | | | 0 | 1 | 4 | 0 | | | | | | | | | 0 | 1 | 1 | 0 | 1 | 0 | | | 1 | 0 | | | 1 | 0 | | | | |
| 57 | Kentucky University, Medical Department.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Louisiana.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 58 | Flint Medical College of New Orleans University.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 59 | Tulane University, Medical Department.—R | | | | | 1 | 0 | | | 0 | 1 | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | |
| | **Maine.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | Medical School of Maine, Bowdoin College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | |
| | **Maryland.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 61 | Baltimore Medical College.—R | | | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 62 | Baltimore University School of Medicine.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 63 | College of Physicians and Surgeons of Baltimore.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 64 | Medical Department, Johns Hopkins University.—R | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | Southern Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 66 | University of Maryland, School of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 67 | Woman's Medical College of Baltimore.—R | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | |
| 68 | Maryland Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Massachusetts.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 69 | Boston University School of Medicine.—H | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 70 | College of Physicians and Surgeons.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 71 | Harvard University Medical School.—R | | | | | | | 2 | 1 | 1 | 0 | | | | | | | | | | | | | 2 | 0 | | | | | | | | | 1 | 0 | | |
| 72 | Tufts College Medical School.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Michigan.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 73 | Detroit College of Medicine.—R | | | | | | | | | 2 | 1 | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | |
| 74 | Detroit Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | Michigan College of Medicine and Surgery.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 76 | Grand Rapids Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 77 | University of Michigan Dept. of Medicine and Surgery.—R | | | | | | | 1 | 6 | 2 | 0 | 0 | 1 | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | |
| 78 | University of Michigan Homeopathic Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Minnesota.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 79 | College of Homeopathic Med. and Surg., Univ. of Minn.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 | College of Medicine and Surgery, Univ. of Minnesota.—R | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | 1 | 0 | | | | | | | | |
| 81 | Medical Department of Hamline University.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Missouri.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 82 | Medico-Chirurgical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 83 | University Medical College of Kansas City.—R | | | 1 | 0 | | | 0 | 1 | 1 | 1 | | | | | | | | | | | | | 1 | 0 | | | 0 | 2 | 1 | 0 | | | | | | |
| 84 | Kansas City Hahnemann Medical College.—H | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 85 | Kansas City Medical College.—R | | | | | | | 0 | 1 | 1 | 0 | | | | | | | | | | | | | | | | | | | 0 | 1 | | | | | | |
| 86 | Eclectic Medical University.—E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 87 | Central Medical College.—R | | | | | | | | | 2 | 0 | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | |
| 88 | Ensworth Medical College.—R | | | | | | | 0 | 1 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 89 | Barnes Medical College.—R | 0 | 1 | | | | | | | 2 | 1 | | | | | | | | | 0 | 1 | | | | | | | | | 1 | 1 | 0 | 1 | | | | |
| 90 | Marion Sims-Beaumont College of Medicine.—R | | | | | | | 0 | 1 | 3 | 2 | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | |
| 91 | St. Louis College of Physicians and Surgeons.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 92 | American Medical College.—E | | | | | | | | | 4 | 1 | | | | | | | | | | | | | | | | | | | 0 | 1 | | | | | | |
| 93 | Homeopathic Medical College of Missouri.—H | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 94 | Medical Department, Washington University.—R | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | 1 | 0 | | |
| 95 | University of the State of Missouri.—R | | | | | | | | | 6 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Nebraska.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 96 | University of Nebraska College of Medicine.—R | | | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 97 | John A. Creighton Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 98 | Lincoln Medical College of Cotner University.—E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **New Hampshire.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 99 | Dartmouth Medical College.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | 0 | 1 | | | | | | | | | | | | |
| | **New York.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | Albany Medical College.—R | | | | | | | 1 | 0 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 101 | College of Physicians and Surgeons.—R | | | 1 | 0 | | | | | 6 | 0 | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | 3 | 0 |
| 102 | Cornell University Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 103 | Eclectic Medical College.—E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 104 | Long Island College Hospital.—R | | | | | | | 0 | 1 | 1 | 0 | 0 | 1 | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | |
| 105 | New York Homeopathic Medical College and Hospital.—H | | | | | | | | | 1 | 0 | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | |
| 106 | New York Medical College and Hospital for Women.— | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 107 | University and Bellevue Hospital Medical College.—R | | | | | | | 1 | 4 | 2 | 2 | 1 | 0 | | | | | | | 1 | 0 | | | 1 | 0 | | | 1 | 0 | | | | | | | | |
| 108 | Syracuse University College of Medicine.—R | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 109 | University of Buffalo, Medical Department.—R | | | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **North Carolina.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110 | Leonard Medical School, Shaw University.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 111 | North Carolina Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 112 | Medical Department, University of North Carolina.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Ohio.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 113 | Western Reserve University Medical College.—R | | | | | | | | | | | | | | | | | | | 1 | 0 | | | 1 | 1 | | | 1 | 0 | | | | | | | | |
| 114 | Cleveland College of Physicians and Surgeons.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 115 | Cleveland Homeopathic Medical College.—H | | | | | | | | | 1 | 1 | 1 | 0 | | | | | | | | | | | 2 | 0 | 0 | 1 | | | | | | | | | | |
| 116 | Eclectic Medical Institute.—E | | | | | | | | | | | 2 | 0 | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | |
| 117 | Medical College of Ohio.—R | | | | | | | | | | | 5 | 1 | | | | | | | | | 0 | 1 | | | | | | | 0 | 1 | 1 | 0 | | | | |
| 118 | Pulte Medical College.—H | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | |
| 119 | Miami Medical College.—R | | | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | Ohio Medical University.—R | | | | | | | | | 3 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 121 | Starling Medical College.—R | | | 1 | 1 | 1 | 0 | | | 0 | 1 | | | | | | | | | | | 0 | 1 | | | | | | | 0 | 1 | | | | | | |
| 122 | Toledo Medical College.—R | | | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Oregon.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 123 | University of Oregon, Medical Department.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 124 | Medical Department, Willamette University.—R | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | |
| | **Pennsylvania.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 125 | Temple College of Philadelphia, Dept. of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 126 | University of Pennsylvania, Department of Medicine.—R | | | | | | | | | 2 | 3 | 4 | 0 | | | 1 | 0 | 1 | 0 | | | | | 1 | 0 | | | | | | | | | | | 1 | 0 |
| 127 | Hahnemann Medical College and Hospital.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 128 | Jefferson Medical College.—R | | | 1 | 0 | | | 1 | 1 | 7 | 2 | 1 | 0 | | | | | | | 0 | 1 | | | 1 | 0 | | | | | | | | | | | | |
| 129 | Woman's Medical College of Pennsylvania.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 130 | Medico-Chirurgical College of Philadelphia.—R | | | | | | | | | 2 | 1 | | | | | | | | | | | | | | | | | | | 0 | 1 | | | | | | |
| 131 | Western Pennsylvania Medical College.—R | | | | | | | | | 1 | 1 | | | 1 | 0 | 0 | 1 | | | | | | | | | | | | | | | | | | | | |
| | **South Carolina.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 132 | Medical College of the State of South Carolina.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Tennessee.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 133 | Tennessee Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | 1 | 0 | | | | | | |
| 134 | Knoxville Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 135 | Medical Department of University of Nashville.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | |
| 136 | Vanderbilt University Medical Department.—R | 1 | 0 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | |
| 137 | University of Tennessee, Medical Department.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | 0 | 1 | | |
| 138 | Meharry Medical College.—R | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 139 | Memphis Hospital Medical College.—R | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 1 | | |
| 140 | University of the South.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | |
| 141 | Chattanooga National Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 142 | Chattanooga Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 143 | University of West Tennessee, Medical Department.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Texas.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 144 | Medical Department Fort Worth University.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 145 | University of Texas Department of Medicine.—R | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 146 | Baylor University College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 147 | Dallas Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 148 | Gate City Medical College, Texarkana.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 149 | Southwestern University Medical College, Dallas.— | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | College of Physicians and Surgeons, Dallas.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **Vermont.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 151 | University of Vermont Medical Department.—R | | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| | **Virginia.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 152 | Medical College of Virginia.—R | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | |
| 153 | University College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 154 | University of Virginia Department of Medicine.—R | 1 | 0 | | | | | 1 | 1 | 0 | 1 | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | |
| | **Wisconsin.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 155 | Milwaukee Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 156 | Wisconsin College of Physicians and Surgeons.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 157 | Canadian Colleges | | | | | | | | | 2 | 0 | 3 | 0 | | | | | | | | | 1 | 0 | | | | | | | | | | | 2 | 0 | | |
| 158 | Foreign | | | 0 | 1 | | | | | 3 | 1 | 1 | 0 | | | | | | | 1 | 0 | | | 1 | 0 | 1 | 0 | | | | | | | 1 | 0 | | |
| 159 | Miscellaneous Medical Colleges | | | | | | | | | 0 | 1 | 2 | 3 | | | | | | | | | | | | | | | | | 1 | 0 | 1 | 0 | | | | |
| | **Totals by States** | 15 | | 12 | | 9 | | 62 | | 182 | | 7 | | 2 | | 5 | | 4 | | 19 | | 29 | | 9 | | 9 | | 29 | | 7 | | 13 | | 9 | | | |
| | Totals—Registered on Credentials or by Reciprocity | | | | | | | | | *1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Totals—Examined—Passed | 10 | | 9 | | 8 | | 20 | | 145 | | 4 | | 2 | | 2 | | 3 | | 10 | | 23 | | 6 | | 5 | | 16 | | 6 | | 8 | | 9 | | | |
| | Totals—Examined—Failed | 5 | | 3 | | 1 | | 42 | | 36 | | 3 | | ..... | | 3 | | 1 | | 9 | | 6 | | 3 | | 4 | | 13 | | 1 | | 5 | | ..... | | | |
| | Percentage of Failures | 33.3 | | 25.0 | | 11.1 | | 67.7 | | 19.8 | | 42.8 | | ..... | | 60.0 | | 25.0 | | 47.3 | | 20.6 | | 33.3 | | 44.4 | | 44.8 | | 14.2 | | 38.4 | | ..... | | 60 | |
| | Figures in italics shows those registered on credentials. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | * Examination consists of an oral or written examination. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | † Report for October examination missing. | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | | 15 | | 16 | | 17 | | 1 | |

VIOUS, EXAMINED BY STATE BOARDS DURING 1905.

| 19 | Massachusetts. | 20 | Michigan. | 21 | Minnesota. | 22 | Mississippi. | 23 | Montana. | 24 | Nebraska. | 25 | Nevada. | 26 | New Hampshire | 27 | †New Jersey. | 28 | New York. | 29 | North Carolina. | 30 | North Dakota. | 31 | Ohio. | 32 | Oklahoma. | 33 | Oregon. | 34 | Pennsylvania. | 35 | Rhode Island. | 36 | South Carolina | 37 | South Dakota. | 38 | Tennessee. | 39 | Texas. | 40 | Utah. | 41 | Vermont. | 42 | Virginia. | 43 | Washington. | 44 | West Virginia. | 45 | Wisconsin. | 46 | Wyoming. | Totals. | Registered on Credentials. | Examined—Passed. | Examined—Failed. | Percentage of Failures. | No. of States having Representatives. | Number. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | F | P | F | P | F |

# MEDICAL SCHOOLS OF THE UNITED STATES

Below is given a brief description of the medical colleges in the United States that are legally chartered to confer the degree of doctor of medicine, and whose diplomas are recognized by at least one state licensing board. The list includes the sectarian as well as the regular colleges, as their graduates are physicians in the eyes of the law. The information given is, as a rule, obtained from the catalogues and has been submitted to the dean of each school for his inspection and approval. Colleges which belong to the American or the Southern Medical College Association or other organization of colleges have requirements for admission of students according to the rules of these associations, unless their requirements are higher, in which case a statement is made to that effect. Extracts from these rules are given at the close of the list of colleges.

---

## ALABAMA.

Alabama, population 1,828,697, has two medical colleges, the Medical College of Alabama and the Birmingham Medical College, located in Mobile and in Birmingham. The population of Mobile is 40,686 and of Birmingham 42,087. Board and room may be obtained from $12 to $20 per month.

### Birmingham.

BIRMINGHAM MEDICAL COLLEGE.—This school was incorporated in 1894 and is situated in Birmingham. The clinical advantages are good. The Hillman, St. Vincent's, Pratt and County hospitals are accessible to the students. The laboratories are well equipped. There are 19 professors and 9 assistants, total 28. The school is a member of the Southern Medical College Association. The course of instruction embraces four separate sessions of six months each. The fees are $75 for each of the first three years and $100 for the fourth. The Dean is Dr. B. L. Wyman. Registration, 1905-6, 72; graduates, 8. Next session open Oct. 3, 1906, and closes April 3, 1907.

### Mobile.

MEDICAL COLLEGE OF ALABAMA.—This is the Medical Department of the University of Alabama, organized in 1859. The city Hospital furnishes free clinical material. The faculty consists of 8 professors and 9 lecturers, 17 in all. It is well equipped with building, laboratories, dispensary, etc. It is a member of the Southern Medical College Association. The course of study covers four years of seven months each. The total fees for each of the first three years is $100; for the fourth year, $125. The Dean is Dr. George A. Ketchum. Total registration, 1905-6, 158; graduates 29. The forty-first session will begin Oct. 1, 1906, and will close April 30, 1907.

## ARKANSAS.

Arkansas, population 1,311,564, has two medical colleges, both located in Little Rock, a city of 42,036 people. Board and lodging cost from $13 to $18 per month.

### Little Rock.

UNIVERSITY OF ARKANSAS MEDICAL DEPARTMENT.—This college was organized in 1879 as the Arkansas Industrial University Medical Department. The teaching body consists of 15 professors and 20 lecturers and assistants, total 35. Hospital facilities are furnished by Logan H. Roots Memorial Hospital, St. Vincent's Infirmary and Pulaski County Hospital, the latter having a capacity of 200 beds. The course of study covers four years of seven months each. Dr. F. L. French, Little Rock, is Secretary. The fees are: Matriculation $5, paid but once; annual fees $60, and graduation $25. Total number of students at last session, 176: graduates, 26. The next course of lectures begins Oct. 1, 1906, and ends May 1. 1907.

COLLEGE OF PHYSICIANS AND SURGEONS.—This college was organized in 1906 and has a faculty of 21. It will occupy the buildings formerly used by the Maddox Seminary. The Dean is Dr. J. P. Runyan and the Secretary, Dr. W. P. Illing. The first session will begin Oct. 1, 1906.

## CALIFORNIA.

California, population 1,485,053, has nine medical colleges. Six are located in San Francisco, a city having, before the earthquake, 355,919 inhabitants. They are Cooper Medical College, Medical Department of the University of California, California Medical College, Hahnemann Medical College of the Pacific, the College of Physicians and Surgeons and the West Coast. The clinical facilities of San Francisco are good. Board and lodging can be obtained for from $20 to $30 a month. The College of Medicine of the University of Southern California is situated in Los Angeles, population 116,420. Board and lodging can be obtained in that city for $4 a week and upward. The Oakland College of Medicine and Surgery is in Oakland, population 70,386.

### Oakland.

OAKLAND COLLEGE OF MEDICINE AND SURGERY.—Organized in 1902: first class graudated in 1905. The fifth session of this school will begin Aug. 21, 1906, and end May 14, 1907. The length of the course is nine months. The classes are limited to ten students each. The Registrar is Dr. Edward N. Ewer. The faculty numbers 28. Tuition is $160 yearly. Total registration, 1905-6, 10; graduates, 4. The next session begins Aug. 21, 1906, and ends May 14, 1970.

### San Francisco.

COOPER MEDICAL COLLEGE.—This school was organized in 1858, though its present name was not adopted until 1882. The faculty consists of 17 professors and 44 lecturers, instructors, etc., 61 in all. Lane Hospital, adjoining the college, the City and County Hospital, containing 464 beds, and the college dispensary furnish clinical material. The minimum requirements for admission are a certificate showing that applicant has passed the regular examination for admission to the University of California, or its equivalent, or graduation from an accredited high school, academy, or preparatory school. The college itself does not hold entrance examinations. The college building supplies large laboratory and lecture-room facilities. The curriculum covers a graded course of four years of eight and a half months each. Fees: Matriculation, $5; course fee for each year, $150; laboratory fee for each year, $10; breakage deposit each year, $10; graduation fee, $25; no other charges. The Dean is Dr. Henry Gibbons, Jr. Total registration for 1905-6 was 138; graduates, 30. The next session opens Aug. 15, 1906, and will close May 8, 1907.

UNIVERSITY OF CALIFORNIA MEDICAL DEPARTMENT.—This department of the State University was organized in 1872, and has a faculty composed of 18 professors, 44 associates and assistants, a total of 62. The City and County Hospital, which admits students of this school not only to the clinics proper, but also to its wards for study, and the college dispensary furnish good clinical material. The course covers graded work for four years of nine months each. This school is a member of the Association of American Medical Colleges. Two full college years' work is required for all applicants for admission. The fees are: Matriculation, $5; tuition, $150 each year; laboratory fees extra. The Dean is Dr. Arnold A. D'Ancona. Total registration for 1905-6, was 90; graduates, 19. The thirty-fourth session opens Aug. 15, 1906, and will close May 15, 1907.

COLLEGE OF PHYSICIANS AND SURGEONS OF SAN FRANCISCO.—This school was organized in 1896 and has a faculty of 28 professors and 15 associate professors and teachers, a total of 43. The nospital facilities consist of the City and County Hospital, the California General Hospital, with 50 beds, and St. Winifred Hospital, with 50 beds. The daily clinics at the new college building furnish abundant material of every description. Applicants for matriculation must show a high school diploma or equivalent credentials, or be examined by the State Superintendent of Public Instruction in high school studies. The college building recently completed is well supplied with laboratories and lecture rooms. Attendance upon four terms of at least 30 teaching weeks each, is required for graduation. Fees, $100 per year. The Dean is Dr. D. A. Hodghead. Registration for 1905-6 was 145; graduates, 30. The next session opens Sept. 17, 1906, and closes May 17, 1907.

HAHNEMANN MEDICAL COLLEGE OF THE PACIFIC.—Homeopathic. This school was organized in 1884, and has a faculty of 19 professors and 23 lecturers, instructors, etc., in all 42. The Pacific Homeopathic Polyclinic, the Hahneman Hospital, the San Francisco Nursery for Homeless Children, Marie Kip Orphanage, accommodating, respectively, 45, 75 and 120 beds; Fabiola Hospital and the City and County Hospital, furnish the clinical material for study. Matriculants must possess the equivalent of a high school education. One year after entrance is permitted in which the student may complete conditions in Latin. The college is registered and accredited with New York State Regents and the Illinois and Michigan State Boards of Health. The course includes four years of seven months each. Total fees for the first year, $155, and $100 for each of the other three years. The Dean is Dr. James W. Ward, 606 Sutter St., San Francisco. Total registration for 1905-6, was 24; graduates, 4. The twenty-fourth session begins Sept. 12, 1906, and will close May 23, 1907.

CALIFORNIA MEDICAL COLLEGE.—Eclectic. This school was organized in 1884 and has a faculty of 10 professors and 25 lecturers, and instructors, a total of 35. The clinical material is supplied by the Buena Vista and City and County Hospitals. Applicants for admission not holding diploma or certificate are examined. The course has been extended to cover four years of eight months each. Total fees are about $110 for each of the first three years and $40 for the fourth year. The Dean is Dr. D. Maclean. Total registration for 1905-6 was 36; graduates, 10. The next session begins Oct. 2, 1906, and ends May 16, 1907.

WEST COAST MEDICAL COLLEGE.—Organized in 1900 as the Pacific Coast College of Medicine. Name changed to the above in 1902. Had 31 graduates in 1903. Course was five years of seven months each. Destroyed by the earthquake and fire, April, 1906. The Dean is Dr. C. W. W. von Tiedemann.

### Los Angeles.

UNIVERSITY OF SOUTHERN CALIFORNIA COLLEGE OF MEDICINE.—This school was organized in 1885, and has a faculty of 29 professors and 19 instructors, 48 in all. The County Hospital having 200 beds, the Sisters' Hospital of 150 beds, the Children's Hospital of 20 beds, and a college dispensary furnish clinical material. Applicants for admission must give evidence of matriculation in a university or graduation from an accredited high school, academy, preparatory school or a California State Normal School, or a cer-

tificate from the Deputy State Superintendent of Schools, that applicant has filled the requirements of the Association of American Medical Colleges, of which this college is a member. This college gives no admission examinations. The building is provided with laboratories, amphitheater and lecture rooms, and a new clinical laboratory, erected in 1904, costing, with equipment, $25,000. The Barlow Medical Library building will be opened Oct. 5, 1906. A graded course, covering four years of thirty-two weeks each, is offered. The total fees for the first year are $145; second and third, $150 each, and $40 for the fourth year. The Dean is Dr. Walter Lindley. Total registration for 1905-6 was 128; graduates, 28. The next session opens Oct. 4, 1906, and closes June 13, 1907.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1903. The length of each course is eight and one-half months. The faculty numbers 37 in all, 24 professors, 6 associate professors, 3 lecturers, and 4 instructors, besides a corps of clinical assistants. The registration for 1905-6 was 31; graduates, 3. The next session begins Oct. 4, 1906, and ends June 18, 1907. The Dean is Dr. Charles W. Bryson, Delta Bldg., Los Angeles.

## COLORADO.

Colorado, with a population of 539,700, has three medical colleges. Two of these, Denver and Gross College of Medicine and Denver Homeopathic College, are in Denver, which has a population of 144,588; the other, the Colorado School of Medicine, is at Boulder, population 6,150. The clinical facilities in Denver available to the two colleges are the Denver County Hospital, which has a capacity of 300 beds; St. Joseph's Hospital, with 300 beds, and St. Luke's Hospital, with 75 beds. The Public Library contains 10,000 volumes on medicine. Board can be obtained in Denver for $5 a week and upward.

### Denver.

THE DENVER AND GROSS COLLEGE OF MEDICINE.—This is the Medical Department of the University of Denver, and was organized in 1902 by the union of the Gross Medical College (organized 1887) and the Denver College of Medicine (organized 1880). The clinical advantages are the college dispensary, the Denver County Hospital, St. Luke's Hospital, St. Anthony's Hospital, St. Joseph's Hospital, National Jewish Hospital for Consumptives, Home for Dependent Children and the City Contagious Hospital and Mercy Sanitarium. The faculty is made up of 36 professors, 40 assistants and instructors, a total of 76. Its location is central, and the buildings are well arranged for laboratory, dispensary and didactic work. The course is graded and covers four years of eight months. The college is a member of the Association of American Medical Colleges. Final examinations at the end of each year are held. Fees for the first year are $115. For the second year, $116. Third year, $101. Fourth year, $126. Total registration, 1905-6, was 100; graduates, 26. The twenty-fifth session will begin Sept. 11, 1906, and close May 18, 1907. The Dean is Dr. S. G. Bonney.

DENVER HOMEOPATHIC COLLEGE.—This college, organized in 1894, beside clinical privileges in the hospital of the city and county of Denver, has exclusive privileges for clinical work in the Denver Homeopathic Hospital, the Haven, the Belle Lenox Nursery, and the Tabernacle Free Dispensary. The faculty numbers 26 professors and 7 lecturers and instructors, 33 in all. The requirements for admission are, "possession of a diploma from a literary college, university, an academy, a normal or high school; a first-grade teacher's certificate, or a previous matriculation at some reputable literary or medical college." The course of study consists of four years of eight months each. The year is divided into semesters. Examinations are held at the end of each semester in the work completed. A five-year scholarship may be had for $300 payable in advance, otherwise the tuition is $100 a year for the first, second and third years. Senior year, $75. There is a matriculation fee of $5, payable once. The Dean is Dr. Joseph B. Kinley. Total registration for 1905-6 was 23; the number of graduates, 5. The twelfth session begins Sept. 17, 1906, and will close May 8, 1907.

### Boulder.

COLORADO SCHOOL OF MEDICINE.—This is the Medical Department of the University of Colorado, and was opened in 1883. The University Hospital, under the control of the state, is equipped to accommodate 40 patients, and furnishes free clinical material. Both hospital and dispensary clinics are offered and the sanatorium located at Boulder offers additional advantages in this line. The faculty embraces 18 professors and 9 lecturers and assistants, a total of 27. The laboratories are well equipped and commodious. A separate building is devoted to the study of anatomy and another one is used for medical work exclusively. A complete four-year course of study in a recognized high school, or its equivalent, is required for admission. This school is a member of the Association of American Medical Colleges. The work embraces a graded course of four years of nine months each. The tuition is $50 per year; there are no other fees. The Dean is Dr. Luman M. Giffin. Total registration for 1905-6 was 70; graduates, 16. The twenty-fifth session begins Sept. 11, 1906, and closes June 7, 1907.

## CONNECTICUT.

Connecticut, with a population of 908,420, has only one medical college, located in New Haven, population 114,600. Board and lodging cost $4.50 and upward per week.

### New Haven.

YALE MEDICAL SCHOOL.—This is the Department of Medicine of Yale University. In 1810 a charter was granted for the establishment of this school, and in 1813 it was organized as the Medical Institution of Yale College. In 1879 a new charter changed the name to the one now used, and in 1884 the Connecticut Medical Society, which, from the granting of the first charter, had taken University authorities assumed full control. The clinical advantages are embraced under the New Haven Hospital, which contains 175 beds and is the general hospital for New Haven; the Springside Hospital, which is connected with the city almshouse, and the State Hospital for the Insane, located in Middletown, about twenty-five miles distant, which, with its 1,800 patients, offers an opportunity for special instruction in insanity in addition to the clinics. Beside these, the University has just completed a $100,000 building for the dispensary service, which offers good material for clinical teaching. The faculty embraces 12 professors, lecturers and assistants, 42, a total of 54. The lecture rooms and laboratories are large and well equipped. Matriculants are admitted without examination, provided that they have received a degree in arts or sciences, that they present certificates showing that they have successfully prosecuted the subjects of the examination at some college, high school, academy or preparatory school approved by the faculty, or that they have passed matriculation examinations equivalent to those required at some approved professional school. The course covers a four-year graded curriculum, nine months constituting a school year; the first two years the fundamental branches are studied, the third year is devoted to a systematic teaching of medicine, surgery, obstetrics and pharmacology, and in the fourth year clinical work, with medicine, surgery and the specialties, is presented. The fees are $150 each year; in the first year there are additional fees amounting to $18, and in the second, $8, and there is a graduation fee of $10. The Dean is Dr. Herbert E. Smith, New Haven. During the session of 1905-6, there were 134 matriculants and 25 graduates. The ninety-fourth session opens Sept. 27, 1906, and closes June 26, 1907.

## DISTRICT OF COLUMBIA.

Washington, population 293,217, has three medical colleges; George Washington University Department of Medicine, Georgetown University School of Medicine and Howard University Medical Department. Washington offers to the student of medicine many advantages. The Army Medical Museum, the Museum of Hygiene, the National Museum, the library in the surgeon-general's office, the Toner Medical Library, and Museum of Hygiene, in all over 125,000 volumes on medicine, open to the medical student a most profitable field. The clinical advantages offered by the various hospitals are good. Owing to the many boarding houses and hotels, board and lodging can be had at reasonable rates.

### Washington.

THE GEORGE WASHINGTON UNIVERSITY, DEPARTMENT OF MEDICINE.—This school was organized in 1821 as the Department of Medicine of Columbian College, which in 1873 became Columbian University, and in 1904, by an act of Congress, changed its name to the George Washington University. In connection with the Department of Medicine is the University Hospital, established and maintained to afford clinical facilities for the students of the school. Beside the University Hospital, the Garfield Hospital, the Children's Hospital, the Central Dispensary and Emergency Hospital, the Providence Hospital, the Columbia Hospital, the Episcopal Eye and Ear Hospital, the U. S. Government Hospital for the Insane, and the Lutheran Eye and Ear infirmary afford additional opportunities and are utilized for clinical instruction. Attendance on clinics is obligatory on third and fourth-year students. The faculty is composed of 38 professors and 41 demonstrators, instructors and assistants. This school is a member of the Association of American Medical Colleges. The laboratories are modern and equipped with all the needed apparatus for thorough work and instruction. The college library contains 2,000 volumes as well as the best current medical periodicals. Beginning with the session of 1909-10 matriculants must present credentials of two years' satisfactory work in an approved college of liberal arts or its equivalent. A combined course of six years' work, leading to the degrees of A.B. and M.D. is offered. The course of instruction is graded and extends through four years, each schoiastic year consisting of eight months. Written and practical examinations are held during the term and written and oral in all subjects at the end of the school year. The total fees for the first year are $157; for the second year $152; for the third year, $112, and for the fourth year, $162. A breakage deposit of $5 is required. The Dean is Dr. W. F. R. Phillips, 1607 16th St. N. W. New and commodious buildings were erected and occupied in 1902. The total registration of students for the session of 1905-6 was 280; graduates, 51. The eighty-fifth session begins Sept. 26, 1906, and closes June 5, 1907.

GEORGETOWN UNIVERSITY SCHOOL OF MEDICINE.—This school organized in 1850, controls the Georgetown University Hospital, which affords excellent facilities for clinical teaching and ward classes. Clinics are also held for the benefit of the students in Providence Hospital, containing 500 beds, at the Government Hospital for the Insane, containing over 2,000 beds; in the Children's Hospital, the Central Dispensary, Emergency Hospital and the Garfield Hospital. Attendance on clinical instruction is obligatory in the third and fourth years. The faculty contains 19 professors, 35 instructors and assistants, total 54. This school is a member of the Association of American Medical Colleges. The building is conveniently located and contains spacious and well-ventilated lecture rooms, laboratories and library; the laboratories are equipped with the most approved instruments and appliances. The complete course of study extends over four terms of eight and one-half months each. Examinations are held at the end of each session. The fees are $150 each year. The Dean is Dr. George M. Kober, 1600 T St. The registration for 1905-6 was 102; graduates, 20. The next term opens on Sept. 27, 1906, and ends June 11, 1907.

HOWARD UNIVERSITY MEDICAL DEPARTMENT.—This institution was organized in 1867, and "in conformity with the spirit of the organic law of the University, is open to all, without regard to sex or race, who are qualified by good moral character, proper age and suitable education." The removal of any racial distinction

has been taken advantage of by colored students, who compose a majority of those in attendance, but a number of white students are also receiving instruction. The Freedman's Hospital is a general hospital of 300 beds. The faculty comprises 17 professors and 27 lecturers and assistants, 44 in all. This college is a member of the Association of American Medical Colleges. Students are required to attend four courses of lectures in separate years of eight months each. The fees of each session are $80, plus $2 per part for dissecting material; and $10 for graduation. Board can be had at the school dining hall for $9 a month, and a room in the dormitory for $15 a term. The Dean is Dr. Robert Reyburn, 2129 F St. Registration for 1905-6 was 157; graduates, 29. The thirty-ninth session begins Oct. 1, 1906, and closes June 1, 1907.

## GEORGIA.

Georgia, population 2,216,331, has four medical colleges; Medical College of Georgia, located in Augusta, population 41,283; Atlanta College of Physicians and Surgeons, Atlanta School of Medicine, and Georgia School of Eclectic Medicine and Surgery, are in Atlanta, a manufacturing city of 96,550 population. Board and lodging may be obtained for from $3 to $5 per week.

### Augusta.

MEDICAL COLLEGE OF GEORGIA.—This school was organized as a medical academy in 1829, and in 1873 was made the Medical Department of the University of Georgia. Its faculty includes 14 professors and 14 assistants, 28 in all. The course is four years of seven months each. Applicants for admission must, by examination, certificate or diploma, show that they possess educational qualifications equal to those required for second grade teachers in public schools; if they are deficient on examination, however, they are admitted, and they may remove the conditions any time before they appear for graduation. The City Hospital, with 130 beds; Lamar Hospital, with 80 beds: the Polyclinic and the Hospital for Contagious Diseases supply clinical material. Fees for the first two years are $75 each; third year, $100, and $130 for the last year. The Dean is Dr. Joseph Eve Allen. The total enrolment for 1905-6 was 118; graduates, 30. The seventy-fifth session begins Oct. 1, 1906, and closes May 1, 1907.

### Atlanta.

ATLANTA COLLEGE OF PHYSICIANS AND SURGEONS.—This school was formed in 1898 by the consolidation of the Atlanta Medical College, organized in 1854, with the Southern Medical College, organized in 1879. It has a faculty of 16 professors and 17 assistants, a total of 33. Clinical facilities are furnished by the Grady Hospital, which is the general hospital for Atlanta, clinics are free to the graduating class. First course students are required to "give satisfactory evidence to the faculty of such educational qualifications as will be deemed necessary for the successful prosecution of their medical studies. These requirements will be similar to those of other reputable medical colleges in the country." The course of study covers four years of seven months each and is graded. The buildings are large and a new building for didactic lectures and clinical work has been added. Fees: First and second years, $75 each; third and fourth, $100 each. The Dean is Dr. W. S. Elkins, 29 Luckie St. Total registration of students for 1905-6 was 182; graduates, 52. Next session begins Oct. 1, 1906, and closes April 30, 1907.

GEORGIA COLLEGE OF ECLECTIC MEDICINE AND SURGERY.—This school was organized in 1839, and has a faculty of 16. The college dispensary, Grady Hospital and Georgia Eclectic Hospital furnish clinical material. Applicants for admission must adhere to the requirements established in the National Confederation of Eclectic Colleges, of which this college is a member. The curriculum covers four years of six months each. The Proctor is Dr. Elzie B. Thomas, 121 Park St., West End. Total number of students for 1905-6 was 57; graduates, 15. The next session opens Oct. 3, 1906, and closes April 1, 1907 (about).

ATLANTA SCHOOL OF MEDICINE.—This school was organized in 1905. A new building is now being constructed which will be completed by Sept. 15, 1906. Session of 1905-6 covered six months, which hereafter will be extended to seven months. Enrolment for 1905-6 was 220. Number of graduates, 21. Next session begins Sept. 26, 1906 and ends April 30, 1907. The Dean is Dr. Geo. H. Noble. The Proctor is Dr. Edward G. Jones.

## ILLINOIS.

Illinois, population 4,821,550, has thirteen medical colleges, all located in Chicago, a city of 1,873,880 inhabitants, and are as follows: Rush Medical College, Northwestern University Medical School, Hahnemann Medical College, Bennett College of Eclectic Medicine and Surgery, College of Physicians and Surgeons, Hering Medical College, Jenner Medical College, Illinois Medical College, American Medical Missionary College, College of Medicine and Surgery, National Medical University, American College of Medicine and Surgery, and Dearborn Medical College. Room and board cost $3 a week and upward.

Colleges in Illinois have to admit students in conformity with the minimum requirements of the Illinois State Board of Health, as follows: "A diploma or certificate of graduation from a high school, or a certificate signed by a principal of a regularly organized high school or by the examiner of the faculty of a recognized literary or scientific college or university, or by the state superintendent of public instruction, or a superintendent of public schools, of having successfully passed an examination in all the several branches embraced in the curriculum of a four years' high school course. The matriculation examination shall not be conducted by any member of the faculty of the medical college. The Illinois State Board of Health will require each applicant for a state certificate to present documentary evidence of his preliminary education, together with his medical diploma, when taking the examination of the board." These conditions will govern all persons admitted to the freshman year on or after Jan. 1, 1903.

All persons admitted to the study of medicine after Jan. 1, 1910, must have had, in addition to the four years' high school course, at least one year of nine months either in a college chartered to grant liberal degrees or in a preliminary year to a medical college, this year to be devoted to the study of physics, chemistry, biology and languages.

### Chicago.

RUSH MEDICAL COLLEGE.—This school was founded in 1837, organized in 1843, was the medical department of Lake Forest University from 1887 to 1898, and in the latter year became affiliated with the University of Chicago. The faculty is composed of 69 professors, 185 associates, instructors, etc., a total of 254. Good clinical facilities are furnished by Cook County Hospital, caring for about 20,000 patients yearly: Presbyterian Hospital, with 250 beds; a college dispensary, and an obstetric department. In addition to these, extramural clinical courses are offered at the West Side Hebrew Dispensary, St. Luke's Hospital, St. Anthony's Hospital, the Alexian Brothers' Hospital, Illinois Charitable Eye and Ear Infirmary and Chicago Isolation Hospital. Bedside instruction is given. The requirements for admission are those of admission to the better universities or colleges, and, in addition thereto, two years of college work. This college work must have included thorough courses in college chemistry (inorganic, organic and qualitative analysis), college physics and biology, all with laboratory work, a reading knowledge of German or of French. The laboratories and their equipment are adequate. The curriculum covers graded work for four years of three quarters each, a quarter being three months. A fifth year, consisting of a hospital internship or of a fellowship in one of the departments is offered, but, for the present is optional. A continuous session is held, but credit for more than three quarters can not be obtained in any calendar year. A combined course for six years confers degrees of both science and medicine. All freshman and sophomore studies are given at the University of Chicago. The total fees are $180 each year. A matriculation fee of $5 is paid but once, and there are incidentals amounting to from $2 to $5 annually. The Deans are Dr. Frank Billings, 100 State St., and Dr. John M. Dodson, 34 Washington St. Total registration, 1905-6 was 450; graduates, 83. The fiscal year begins July 1; final examinations are held at the end of each quarter.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1881, and in 1896 became the Medical Department of the University of Illinois. The faculty is composed of 42 professors, 156 assistants and instructors, a total of 198. The West Side Hospital, containing 125 beds; Cook County Hospital, and a college dispensary and maternity clinic supply most of the clinical material, but under certain conditions students of this school are admitted to the following hospitals for clinical study: Augustana, Baptist, Chicago, Woman's, Samaritan, Alexian Brothers', St. Mary's and the Chicago Lying-in. This school is a member of the Association of American Medical Colleges. The laboratory, amphitheater and lecture-room space and equipment are excellent. The collegiate year is divided into two terms; the winter term of thirty-six weeks and the summer term of twelve weeks, of actual teaching. Attendance on the winter term is required in order to secure credit for a year's work, and attendance on four winter terms is required for graduation. Attendance on the summer term is optional, and the work is supplementary to the work of the winter term. Students may obtain credit for work done in certain branches, but attendance on this term does not apply on the required thirty-six months' attendance necessary for graduation. The fees are $145 each for the first two years, $150 for the third, and $175 for the fourth year. The Dean is Dr. William E. Quine, 103 State St. Total registration for 1905-6 was 556; graduates, 210. The fall term begins Sept. 25, 1906, and ends June 4, 1907.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.—This school was organized in 1859 as the Medical Department of Lind University, became independent as the Chicago Medical College in 1864, and in 1869 assumed its present relation as Medical Department of Northwestern University. The faculty comprises 38 professors and 78 assistants and instructors, in all 116. Wesley Hospital, with 225 beds; Mercy Hospital, containing 400 beds; Provident Hospital, 100 beds; St. Luke's, 200 beds; the Chicago Lying-in Hospital, and a college free dispensary furnish opportunities for clinical study to students of this college exclusively. Cook County and the People's hospitals are also open to them for study. Applicants for admission must, by diploma, certificate or examination, show possession of the educational requirements required to enter the College of Liberal Arts of Northwestern University. The laboratory and lecture-room facilities are ample and the equipment is good. The course of study covers graded work for four years of thirty-six weeks each. Optional summer laboratory and clinical courses are also given. Final examinations are held at the end of each semester. The fees for each year are $175, and a matriculation fee of $5, paid once, is charged. The Dean is Dr. N. S. Davis, Chicago Savings Bank Bldg. The total registration for 1905-6 was 580; graduates, 125. The next session opens Oct. 2, 1906, and closes June 2, 1907.

AMERICAN MEDICAL MISSIONARY COLLEGE.—This school was organized in 1895 and has the primal object of educating men and woman as missionary physicians. The faculty numbers 27. The didactics and laboratory work, covering the first two years, are car-

ried on at Battle Creek, Mich., and the clinical studies in Chicago. A hospital with 20 beds, in connection with the college, together with a free college dispensary with an obstetric department, supply material for practical work. The college is a member of the Association of American Medical Colleges. The course covers four years of nine months each. Total fees are $105 for each of the four years. The Secretary is Dr. E. L. Eggleston, Battle Creek, Mich. Total registration for 1905-6 was 80; graduates, 22. The twelfth session opens Sept. 18, 1906, and closes June 17, 1907.

ILLINOIS MEDICAL COLLEGE.—This school, organized in 1894, has a faculty of 34 professors and 16 assistants, a total of 50. A college dispensary and Cook County Hospital are available for clinical study. The requirements of admission include a high school diploma or its equivalent. The college is a member of the Association of American Medical Colleges. Attendance for seven months during each year is necessary for graduation. Total fees are about $125 for each year. The Dean is Dr. B. B. Eads, 103 State St. Total registration for 1905-6 was 192; graduates, 48. The next fall term begins Sept. 4, 1906.

JENNER MEDICAL COLLEGE.—This is a day and evening school, organized in 1892. The faculty consists of 46 professors and 7 assistants, 53 in all. Cook County Hospital and college dispensary supply clinical material. The course covers four years of 40 weeks each and embraces laboratory, didactic and clinical instruction. The total fees each year are $100, with a $5 matriculation fee, paid but once. The Registrar is Dr. J. G. Tyssowski, 196 Washington St. Total enrolment for 1905-6 was 250; graduates, 38. The next session begins Sept. 3, 1906, and will end June 27, 1907.

DEARBORN MEDICAL COLLEGE.—This school was organized in 1903, with a faculty of 38 professors and 4 assistants, a total of 42. The instruction, which is given in the evening only, extends over a period of five years of ten months each. Cook County Hospital, Samaritan Hospital and a college dispensary supply the clinical material. The total fees are: $5 matriculation fee, $110 tuition, and $10 laboratory deposit. The Dean is Dr. L. Blake Baldwin; the Secretary, Dr. J. L. Wells. Total registration for 1905-6 was 221; graduates, 35. The next session begins Sept. 3, 1906, and ends June 24, 1907.

HAHNEMANN MEDICAL COLLEGE.—Homeopathic. This school was organized in 1855, and has a faculty of 80. Hahnemann Hospital and a college dispensary supply clinical material. The requirements for admission are a high school diploma or its equivalent. The course is four years of eight months each. Fees: Matriculation, paid once, $5; each semester, $50, and hospital tickets, $5 each for third and fourth years. The Registrar is Dr. W. Henry Wilson. Total registration 1905-6 was 178; graduates, 58. The next session begins Oct. 1, 1906, and ends May 29, 1907.

HERING MEDICAL COLLEGE.—Homeopathic. This school was organized in 1892. Dunham Medical College, organized in 1895, was consolidated with it in August, 1902. In January, 1905, it purchased the Chicago Homeopathic College Building at 350 South Wood St., opposite Cook County Hospital, which it now occupies. The faculty comprises 40 professors and 25 associates, lecturers, etc., in all 65. Hering College Hospital, Chicago Homeopathic, Frances Willard and Cook County hospitals supply clinical facilities. The course covers four years of eight months each. The total fees for a full course are $300 if paid in advance, or $100 per year. The Dean is Dr. H. C. Allen. Total registration for 1905-6 was 48; graduates, 14. The fourteenth session begins Sept. 3, 1906, and ends May 3, 1907.

COLLEGE OF MEDICINE AND SURGERY.—Physio-Medical. This school was organized in 1896, and has a faculty of 40 professors and 3 assistants. The college dispensary supplies material for clinical work. The course covers four years of eight months each. Fees for the first, second and third years, $110 each, and $115 for the fourth. The Secretary is Dr. John C. McCandless, 6536 Ingleside Ave. Total registration for 1905-6 was 40; graduates, 5. The next session begins Sept. 26, 1906, and ends May 17, 1907.

BENNETT COLLEGE OF ECLECTIC MEDICINE AND SURGERY.—This school, organized in 1868, has a faculty of 40 professors and 12 assistants, 52 in all. The Bennett, Cook County and Baptist hospitals and a college dispensary supply clinical facilities. Matriculants must present a diploma or certificate or pass a satisfactory examination "in conformity with the minimum requirements of the State Board of Health." The course covers four years of thirty weeks each. This school is a member of the National Confederation of Eclectic Medical Colleges. Fees for each year are $100, with a matriculation fee, paid once, of $5. The Dean is Dr. A. L. Clark, Elgin, Ill. Total registration, 1905-6 was 166; graduates, 52. The thirty-ninth session begins Sept. 25, 1906, and ends May 7, 1907.

AMERICAN COLLEGE OF MEDICINE AND SURGERY.—This school was founded in 1901 and has a faculty of 65. The requirements for entrance are graduation from an accredited high school or equivalent. The course is four years of eight months each. Frances E. Willard and Cook County hospitals supply clinical material. The Secretary is Dr. J. N. Roe. The annual fee is $100; matriculation fee is $5; a total fee for one year, with board, room, light and heat, is $208. The enrolment, 1905-6 was 189; graduates, 23. The next session begins Sept. 24, 1906, and closes May 21, 1907.

NATIONAL MEDICAL UNIVERSITY.—This school was organized in 1891, and its courses include instruction in the methods of all the so-called schools of practice, including manual therapeutics. The faculty numbers 75. The requirements for entrance are in accordance with the requirements of the Illinois State Board of Health. Each year is divided into four quarters of thirteen weeks each, attendance on three quarters constituting one college year. The fees are $200 per year. The Dean is Dr. L. D. Rogers, 533 Wells St. Total matriculants for 1905-6 were 249; graduates, 29. The autumn quarter will begin Oct. 1, 1906.

## INDIANA.

Indiana, population 2,516,462, has five medical colleges. Four are situated in Indianapolis, a city of 191,033 people: The Indiana Medical College, the Eclectic Medical College, the Physio-Medical College of Indiana and the State College of Physicians and Surgeons. The clinical facilities of Indianapolis are good, and board and lodging can be obtained from $3 a week and upward. The School of Medicine, Indiana University, is situated in Bloomington, a city of 5,000.

### Indianapolis.

INDIANA MEDICAL COLLEGE, THE SCHOOL OF MEDICINE OF PURDUE UNIVERSITY.—Organized in 1869 as The Medical College of Indiana, Medical Department of the University of Indianapolis. In September, 1905, consolidated with Purdue University, The Central College of Physician and Surgeons and the Ft. Wayne College of Medicine, and assumed above title. Total number of students for 1905-6, 339; number graduated, 122. This college is a member of the Association of American Medical Colleges. Total fees, per term, $75. The faculty embraces 50 professors and 60 lecturers, demonstrators and assistants. Four years graded course.

ECLECTIC MEDICAL COLLEGE OF INDIANA.—This school was organized in 1900 and has a teaching force of 24. The course is four years of seven months each. Fees: For each year, $15, or for all four, $225; $25 for graduation. Total registration, 1905-6, 20; graduates, 6. The Dean is Dr. T. M. Culver, 723 So. Meridian St.; the Secretary is Dr. F. M. Wright, 1120 E. 10th St. The next session begins Sept. 21, 1906, and ends April 21, 1907.

PHYSIO-MEDICAL COLLEGE OF INDIANA.—This school was organized in 1873 and has a faculty of 36. The course is four years of eight months each. Total fees for each year are $90. The Secretary is Dr. C. T. Bedford, Newton-Claypool Bldg. Total enrolment, 1905-6 was 23; graduates, 6. The next session begins Sept. 11, 1906, and closes May 9, 1907.

THE STATE COLLEGE OF PHYSICIANS AND SURGEONS.—In affiliation with the Indiana University. This school was organized this year. The faculty, as selected, is to consist of 26 professors, 10 assistants and 15 special lecturers, a total of 51. The college expects to equip its own hospital and polyclinic. The minimum requirements for admission are to be a full four years' high school course or its equivalent. The work covers a graded course of four years of nine months each. The first two years are to be given at Indiana University, Bloomington, while the junior and senior years are to be given at the College building, in Indianapolis, and will consist mainly of clinical instruction. The Dean is Dr. Allison Maxwell, and the Secretary is Dr. John F. Barnhill.

### Bloomington.

INDIANA UNIVERSITY SCHOOL OF MEDICINE.—This school was organized in 1903, and gives the first two years of the regular four years' medical course. The year is nine months long. Two years of specified collegiate work in sciences and languages are required for entrance. The members of the faculty give their entire time to the teaching and investigation of their respective subjects. All the work of the school is university in character. The laboratory equipment is the best obtainable. The school is a member of the Association of American Medical Colleges. The faculty consists of 9 professors and 7 assistants, a total of 16. President W. L. Bryan is the Acting Dean. Dr. B. D. Myers, Secretary. The enrolment in 1905-6 was 21. The next session begins Sept. 18, 1906, and ends June 14, 1907.

## IOWA.

Iowa, population 2,231,853, has five medical colleges. The College of Medicine of the State University of Iowa and the College of Homeopathic Medicine of the State University of Iowa are located in Iowa City, population 7,987. In Des Moines, population 62,139, is the College of Medicine of Drake University. In Sioux City, population 31,701, is the Sioux City College of Medicine. In Keokuk, population 14,803, is Keokuk Medical College, College of Physicians and Surgeons. Board and lodging may be had in Des Moines for $15 a month and upward and in the other cities named for from $2.50 to $5 per week.

### Des Moines.

DRAKE UNIVERSITY COLLEGE OF MEDICINE.—This school was organized in 1882 under the name of the Iowa College of Physicians and Surgeons. In 1900 it became affiliated with Drake University. The faculty consists of 20 professors and 30 assistants, a total of 50. The Mercy and Methodist hospitals, 200 beds, and a large dispensary clinic furnish clinical material. The college is a member of the Association of American Medical Colleges. The requirements for admission, after the 1st of July, 1905, will be a full four years' high school course or its equivalent. The work covers a graded course of four years of nine months each. The total fees for the first two years are $107 each, including laboratory and dissecting material; for the last two years, $89 each, including hospital fees. The Dean is Dr. D. S. Fairchild. The total registration for 1905-6 was 81; graduates, 10. The next session begins Sept. 17, 1906, and ends June 13, 1907.

### Iowa City.

COLLEGE OF MEDICINE OF THE STATE UNIVERSITY OF IOWA.—This department was organized in 1870. The faculty is made up of 10 professors, 18 lecturers, demonstrators and assistants, a total of 28. The University Hospital, built in 1897 at a cost of $50,000, supplies the clinical material. The school is a member of the Association of American Medical Colleges. The course of study covers four years of thirty-six weeks each, embracing graded laboratory, didactic and clinical work. New laboratories have been erected, histology, embryology, anatomy, physiology, pharmacology, pathology, bacteriology and clinical medicine. Combined courses leading to more than one degree are offered. Total fees for each year are $50. The Dean

is Dr. James R. Guthrie, Dubuque; Vice-Dean, Dr. Walter L. Bierring, Iowa City. Total number of students registered for 1905-6 was 267; graduates, 50. The thirty-seventh session opens Sept. 18, 1906, and ends June 12, 1907.

COLLEGE OF HOMEOPATHIC MEDICINE OF THE STATE UNIVERSITY OF IOWA.—This was organized in 1877. The faculty is composed of 12 professors and 12 lecturers and assistants, a total of 24, but some of these are of the faculty of the College of Medicine. The requirements for admission and the work, with the exception of that pertaining to homeopathy, are the same as those for the College of Medicine of the State University of Iowa. The fees are also the same. The Dean is Dr. George Royal, Des Moines. Total registration for 1905-6 was 47; graduates, 8. The thirtieth session begins Sept. 18, 1906, and will end June 12, 1907.

### Keokuk.

KEOKUK MEDICAL COLLEGE, COLLEGE OF PHYSICIANS AND SURGEONS.—In 1849 the College of Physicians and Surgeons, Keokuk, was organized, and four years later it became the Medical Department of the University of Iowa, continuing as such until 1870, when the original name was resumed. By the union in 1899 of this college with the Keokuk Medical College, organized in 1890, the present school under the above name was founded. The clinical material is good. St. Joseph's Hospital, having 100 beds and a splendid equipment, is open to the student for study and the clinics held there are large and varied. The faculty is composed of 21 professors and 7 assistants and demonstrators, 28 in all. This college is a member of the Association of American Medical Colleges. The studies embrace a graded course of four years of eight months each. The total fees for the first year are $66; for the second, $61; for the third, $64, and $61 for the last year. The Secretary is Dr. C. E. Ruth. Total registration for 1905-6 was 170; graduates, 50. The next session begins Sept 18, 1906, and ends May 14, 1907.

### Sioux City.

SIOUX CITY COLLEGE OF MEDICINE.—This school was organized in 1891. The faculty numbers 26. Clinical material is supplied by St. Joseph's Mercy and Samaritan Hospitals and a college dispensary. This college is a member of the Association of American Medical Colleges. The system of study embraces a four-year graded course, eight months being a school year. Final examinations are held at the close of each course of instruction. Matriculation fee, paid but once, $5; tuition, each year, $48; hospital fees, $5, and graduating fee, $20. The President is Dr. J. N. Warren. Total number of students registered, 1905-6, was 72; graduates, 14. The seventeenth sessions opens Sept. 13, 1906, and will close May 2, 1907.

## KANSAS.

Population 1,600,000, has two medical colleges. Kansas Medical College is in Topeka, population 35,388, and the School of Medicine of the University of Kansas, giving its first two years in Lawrence, population 11,123, and the last two years in Rosedale, a suburb of the two Kansas Citys, population 250,000. Board and lodging in all these places may be had for $3 to $5 per week.

### Lawrence and Kansas City.

UNIVERSITY OF KANSAS SCHOOL OF MEDICINE.—Was organized in 1880. In 1899 the preclinical course of two years was established. In 1905 it merged with three Kansas City schools, viz., the Kansas City Medical College, founded in 1869; the College of Physicians and Surgeons, founded in 1893, and the Medico-Chirurgical College, founded in 1896. This school is a member of the Association of American Medical Colleges. The faculty, including lecturers and clinical assistants, numbers 117. Each yearly term is thirty-six weeks in length, dividing into two semesters. The laboratories in Lawrence are extensive and well equipped. In Rosedale the laboratory for chemical pathology is a brick-and-stone structure, 50x100 feet, of three stories; besides this, the school has three dispensaries, the beginnings of a hospital of its own and the use of one public and three private hospitals. Of the faculty named above, nineteen are on salary. A combined course of six years is offered, conferring, after six years, the degrees of A.B. and M.D. The total fees are, for the first two years, $60 per year (and for non-residents of the state $70); for the last two years, $100 per year. The Dean at Lawrence is Dr. Merwin T. Sudler. The Dean of the clinical department at Kansas City is Dr. George Howard Hoxie. The number of students registered for 1905-6 was 150; graduates, 57. The next session begins Sept. 12, 1906, and will end June 5, 1907.

### Topeka.

KANSAS MEDICAL COLLEGE, MEDICAL DEPARTMENT OF WASHBURN COLLEGE.—This college, organized in 1890, has a faculty of 28 professors and 12 lecturers and assistants, 40 in all. Good material for both medical and surgical clinics is found in Chirst's Hospital, with 100 beds, and Topeka State Hospital; the dispensary in the college building also supplies material for class demonstration. The college is a member of the Association of American Medical Colleges. The college building affords ample laboratory and lecture-room space. The course of study is a graded one, covering four years of thirty weeks each. Individual instruction is especially aimed at. The total fees are $70 each year. The Dean is Dr. William S. Lindsay; Secretary, Dr. William McVey. The total registration for 1905-6 was 90; graduates, 18. The seventeenth session begins Sept. 4, 1906, and will close April 17, 1907.

## KENTUCKY.

Kentucky, population 2,147,174, has seven medical colleges. They are all situated in Louisville, a city of 215,945 inhabitants, and are as follows: University of Louisville Medical Department, Kentucky School of Medicine, Louisville Medical College, Hospital College of Medicine, Southwestern Homeopathic Medical College, Kentucky University Medical Department and the Louisville National Medical College. Board and lodging in Louisville cost from $3 to $4 per week.

### Louisville.

KENTUCKY SCHOOL OF MEDICINE.—This school was organized in 1850 and has a faculty composed of 20 professors, 27 lecturers, instructors and assistants, a total of 47. It is a lineal descendant of the Medical Department of Transylvania University, then situated at Lexington, Ky. The College Hospital, City Hospital and the college dispensary furnish the facilities for clinical study. The student is brought directly into contact with the patient through dispensary and bedside work by dividing the classes into sections. This college is a member of the Association of American Medical Colleges. The laboratories and their equipment are good. The curriculum embraces a four years' course of 28 weeks each. The fees for the first three years are $75 each; for the four year, $100. The Dean is Dr. W. H. Wathen, 628½ Fourth Avenue. Total number of students registered for 1905-6 was 275; graduates, 48. The next session begins Dec. 15, 1906, and will end July 12, 1907.

LOUISVILLE MEDICAL COLLEGE.—This school was organized in 1869 and has a faculty of 12 professors and 18 instructors and assistants, 30 in all. The City Hospital, College Infirmary and a dispensary offer good clinical facilities. Applicants for admission must show by diploma, certificate or examination that they are sufficiently proficient in English, arithmetic, algebra, physics and such Latin as would be acquired in one year's study. The laboratories and lecture rooms are ample. The course of study covers four years of six months each. The fees are $75 each year, with graduating fee of $25. The Secretary is Dr. Irvin Abell. Total registration for 1905-6 was 216; graduates, 54. The next session opens Dec. 11, 1906, and closes July 1, 1907.

HOSPITAL COLLEGE OF MEDICINE.—This school is the medical department of Central University of Kentucky and was organized in 1873. The faculty is composed of 16 professors and 35 assistants, lecturers, etc., a total of 51. The Gray Street Infirmary, City Hospital and a well-equipped college dispensary present good facilities for clinical study. This college is a member of the Association of American Medical Colleges. Laboratory work, which is a prominent feature of the course, is thorough and practical. The laboratories and amphitheaters are ample in equipment and capacity, and the hospital advantages give opportunity for personal bedside instruction. The course covers four years of seven months each. Total fees for each of first three years, $75, and $100 for the fourth year. The Dean is Dr. P. Richard Taylor. Total enrolment for 1905-6 was 338; graduates, 94. The thirty-third session opens Dec. 1, 1906, and closes July 1, 1907.

KENTUCKY UNIVERSITY MEDICAL DEPARTMENT.—This school was reorganized in 1898. The faculty is composed of 17 professors and 25 lecturers, demonstrators, etc., 42 in all. Broadway Infirmary, the City Hospital and the college dispensary furnish clinical material. The school is a member of the Association of American Medical Colleges. The buildings provide ample facilities for clinical, laboratory and didactic instruction. The course of study embraces graded work for four years of thirty weeks each. Tuition is $75 per session and $25 graduation fees. The Dean is Dr. Thomas C. Evans, 654 Fourth Ave. Total number of students registered in 1905-6 was 284; graduates, 82. The next session begins Jan. 1, 1907, and ends July 31, 1907.

UNIVERSITY OF LOUISVILLE MEDICAL DEPARTMENT.—This school was organized in 1837 under the name Louisville Medical Institute, and in 1846 assumed its present title. It has a faculty of 12 professors and 22 lecturers, demonstrators, etc., a total of 34. The University Hospital, City Hospital, Sts. Mary and Elizabeth Hospital, together with the college dispensary, furnish good clinical material. The course covers graded work for four years of seven months each. Total fees: First three years, $75 each, and fourth, $100. The Dean is Dr. J. M. Bodine. Total registration for 1905-6 was 213; graduates, 47. The seventieth session begins Oct. 1, 1906, and ends May 1, 1907.

LOUISVILLE NATIONAL MEDICAL COLLEGE.—Colored. This was chartered in 1888 and shows a teaching force of 25. There is a four-year course, seven months to the year; the fees are $58, $58, $55 and $50 for the four years respectively. The Dean is Dr. E. S. Porter, Tenth and Walnut. The attendance, 1905-6, was 50; graduates, 7. The next session opens Oct. 2, 1906, and ends May 17, 1907.

SOUTHWESTERN HOMEOPATHIC MEDICAL COLLEGE.—This college was organized in 1892 and has a faculty of 17 professors and 10 lecturers and assistants, 27 in all. A college dispensary supplies clinical material. The curriculum covers four years of seven months each. Total fees: First and second years, $80; third, $70, and $65 for the fourth. The Dean is Dr. A. L. Monroe. Total number of students for 1905-6 was 16; graduates, 6. Next session opens Sept. 26, 1906, and closes April 24, 1907.

## LOUISIANA.

Louisiana, having a population of 1,381,625, contains two medical colleges: Medical Department of the Tulane University of Louisiana and New Orleans University. They are both situated in New Orleans, a city of 300,625 people. The cost of room and board is from $16 to $22 a month.

### New Orleans.

MEDICAL DEPARTMENT OF THE TULANE UNIVERSITY OF LOUISIANA.—This school was organized in 1834 as the Medical College of Louisiana, and became by law, in 1847, the Medical Department of the University of Louisiana, and in 1884 the Medical Department of the Tulane University of Louisiana. The faculty and all other instructors number over 50. By acts of legislature the Charity Hospital, with 900 beds, has been opened to the students of this school for clinical study, not only in medicine and surgery, but also in obstetrics and gynecology. In the year 1905 there were 9,074 cases

treated in the wards of this hospital; these were indoor patients; and in addition 19,429 outdoor patients were treated in the free dispensary department. The Milliken Memorial Hospital, with a capacity for 200 children, is also available for study of clinical cases. Bedside instruction is given by the attending physicians to these hospitals, and postmortem examinations are held before the students. The laboratories are large and well equipped, and the lecture rooms and recitation rooms are ample. The course of study covers four terms of twenty-eight weeks each. Total fees for the first two years are $135 each and for the third and fourth $145 and $170 respectively. The Dean is Dr. Stanford E. Chaille, P. O. Drawer 261. The total number of students registered for 1905-6 was 458; graduates, 102. The seventy-third session begins Oct. 8, 1906, and will close May 8, 1907.

FLINT MEDICAL COLLEGE OF NEW ORLEANS UNIVERSITY.—Colored. This school was organized in 1889 as the Medical College of New Orleans University. Name changed to the above in 1901. The faculty is made up of 10 professors, 6 lecturers and instructors, 16 in all. Four of the professors devote all their time to teaching and research. Clinical material is supplied by the Sarah Goodridge Hospital and by an outdoor clinic. This college is a member of the Association of American Medical Colleges. The curriculum covers a graded course of four years, twenty-six weeks each. The laboratories and lecture rooms are ample. Examinations are held monthly. Total fees, $50 each year. The Dean is Dr. A. D. Bush, 1566 Canal St. Total enrolment for 1905-6 was 54; graduates, 8. The seventeenth college year begins Oct. 1, 1906, and will end April 15, 1907.

## MAINE.

Maine, population 694,466, has one medical college, located in Portland, population 52,656. Board and lodging cost from $3 to $5 a week.

### Portland.

MEDICAL SCHOOL OF MAINE.—This, the Medical Department of Bowdoin College, was organized in 1820. It has 16 professors and 19 instructors, total 35. Students of the first and second years are instructed in Brunswick, a town of 6,800 inhabitants. The third and fourth year classes are taught in Portland, where are situated the Maine General Hospital and other clinical advantags. Applicants for admission, unless they possess diplomas, are examined in English, arithmetic, algebra, geometry, United States History, physics, chemistry and Latin. The course covers four years of eight months each. The total fees are $120 for the first year; for the second and third, $110, and $110 for the fourth year. The Dean is Dr. Alfred Mitchell, Brunswick. Total number of students in 1905-6 was 82; graduates, 17. The next session opens Oct. 25, 1906, and closes June 26, 1907.

## MARYLAND.

Maryland, with a population of 1,188,044, contains eight medical colleges, all located in Baltimore, a city with 531,313 inhabitants. They are as follows: School of Medicine of the University of Maryland, College of Physicians and Surgeons, Baltimore University School of Medicine, Baltimore Medical College, Women's Medical College, Southern Homeopathic Medical College, Johns Hopkins Medical School and Maryland Medical College. The Bay View Hospital, having a capacity for 2,000 patients, is open to students for clinical instruction and furnishes good opportunities for practical demonstration. Board and lodging can be obtained for from $3 to $5 per week.

### Baltimore.

JOHNS HOPKINS MEDICAL SCHOOL.—This is the Medical Department of Johns Hopkins University, and was organized in 1893. The faculty comprises 11 professors, 71 lecturers, clinical professors, associate professors, associates, instructors and assistants, a total of 82. The Johns Hopkins Hospital and Dispensary furnishes abundant and varied clinical material; the lying-in department of the hospital, opened in 1896, is in successful operation. The requirements for admission demand that the applicant either has (*a*) completed the chemical biologic course which leads to the A.B. degrees in the university; (*b*) graduated at an approved college or scientific school and can furnish evidence of an acquaintance with Latin and a fair reading knowledge of French and German, and a knowledge of physics, chemistry and biology, such as may be obtained from a year's course, including laboratory instruction. The school is a member of the Association of American Medical Colleges. The laboratories are large, well lighted and well equipped. The buildings are ample and built expressly for the purpose for which they are used. In the method of instruction special emphasis is laid on practical work in the laboratories, dispensary and wards of the hospital. The first two years are devoted mainly to practical work in the laboratories, combined with demonstrations, recitations and lectures, and during the remainder of the course opportunity for the personal study of cases is given. The work covers a graded course of four years, eight and a half months to the year. Final examinations, partly written and partly oral, include practical tests in laboratory and clinical work; the general character of the student's work is closely watched. The charge for tuition is $200 per annum, with no fees unless a microscope is rented; that fee is $5 a year. The Dean is Dr. William H. Howell, 232 West Lanvale St. Total registration in 1905-6 was 293; graduates, 84. The next session begins Oct. 3, 1906, and ends June 2, 1907.

UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE.—This institution was organized in 1807 as the College of Medicine of Maryland, and in 1812, other faculties having been added, the whole was chartered under the name of the University of Maryland. The faculty is composed of 14 professors, 46 associates and lecturers, etc., a total of 60. The University Hospital, a part of which is used for a hospital for foreign seamen and another portion for a free city hospital, offers excellent clinical facilities. Besides this, the Presbyterian Eye, Ear and Throat Charity Hospital, in which 11,844 patients were treated in 1905; the Hospital for the relief of Crippled and Deformed Children, containing 40 beds; the Maternity Hospital and a college dispensary furnish material for clinical study. This schol is a member of the Association of American Medical Colleges. The laboratories and lecture rooms are ample and well equipped. An entirely new laboratory building has just been erected. The fourth-year class, divided into sections, receives special training in practical laboratory work in a well-appointed clinical laboratory. Didactic, laboratory and clinical instruction, special attention being paid to bedside work, make up the system of teaching. The course covers four years of eight months each, and is graded. The total fees for the first two years are $135 each; for the third year, $125, and $155 for the final year. The Dean is Dr. R. Dorsey Coale. The total number of students registered in 1905-6 was 339; graduates, 83. The one hundreth session begins Oct. 1, 1906, and will terminate June 1, 1907.

BALTIMORE MEDICAL COLLEGE.—This college was organized in 1881 and has a faculty of 59. The clinical material is furnished by the Maryland General Hospital, having a capacity of 200 beds; the Maryland Lying-in Hospital; the Mount Hope Retreat, which presents good opportunity for the study of nervous and mental diseases, and a college dispensary, which, beside the great number of ambulatory patients treated, has an outdoor department that permits of the advanced student taking care of charity cases and carrying out his own treatment. This college belongs to the Association of American Medical Colleges. The college buildings afford ample laboratory, clinical and lecture-room space. Bedside teaching in the hospital wards is carried on in sections, and every member of the senior class is required to attend throughout the session. The course of study is graded and covers four years of eight months each. The Dean is Dr. David Streett. The total number of students registered in 1905-6 was 441; graduates, 97. The twenty-sixth session opens Sept. 20, 1906, and closes May 20, 1907.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1872, and in 1878 Washington University School of Medicine, established in 1827, was consolidated with it. The faculty numbers 53. The clinical facilities, beside those afforded in common with other schools, are supplied by the Baltimore City Hospital, containing 225 beds; the Hospital for the Colored Race, containing 100 beds; the Nursery and Child's Hospital, with 150 beds; the Maryland Lying-in Asylum and a college dispensary. This school is a member of the Association of American Medical Colleges. The work covers a graded course of four years, eight months constituting a year. Total fees are $115, $115, $115 and $135 for the respective years. The Dean is Dr. Charles F. Bevan. The total number of students registered in 1905-6 was 291; graduates, 65. The next session opens Oct. 1, 1906, and closes June 1, 1907.

MARYLAND MEDICAL COLLEGE.—This school was organized in 1898 and has a faculty of 19 professors, 25 associates, lecturers, etc., 44 in all. The Franklin Square Hospital, West End Maternite and a college dispensary furnish clinical material. The course of study covers four years of nine months each. A matriculation fee of $5 and total laboratory fees for the four years of $55 are charged; tuition is $75 each year. The Dean is Dr. J. B. Schwatka, 1003 North Broadway. Total registration for 1905-6 was 124; graduates, 29. The ninth session begins Sept. 15, 1906, and closes May 3, 1907.

WOMAN'S MEDICAL COLLEGE.—This school was organized in 1882 and has a faculty of 17 professors, 15 associates, assistants and lecturers, a total of 32. The Hospital of the Woman's Medical College and a college dispensary furnish general clinical material, while abundant special material is furnished by the Presbyterian, Eye and Ear and the Sheppard and Enoch Pratt (for mental cases) Hospitals. The college is a member of the Association of American Medical Colleges. The laboratories and lecture rooms are equipped with all necessary apparatus; the practical work is emphasized. Eight months constitute a school year and the course covers graded work for four years. The total fees for the first three years are $106 each and $81 for the last year, with $30 graduation fee. The Dean is Dr. S. Griffith Davis, 1230 Light St. Total number registered for 1905-6 was 33; graduates, 3. The twenty-fifth session opens Oct. 1, 1906, and closes May 31, 1907.

SOUTHERN HOMEOPATHIC MEDICAL COLLEGE.—This school was organized in 1896, with a faculty of 10 professors and 14 associates and lecturers, a total of 24. It now has a faculty, including professors, associates, lecturers and demonstrators, consisting of 37 in all. The clinical facilities are those offered by the Maryland Homeopathic Hospital and St. Luke's Hospital, which together have about 75 beds. There is also a polyclinic dispensary in the basement of the college building, which furnishes considerable lecture material; the obstetric department of the Maryland Homeopathic Hospital also furnishes clinical material. One of the features of the institution is the outdoor work done by the students, including a large amount of obstetric work. Applicants for matriculation must pass a satisfactory examination in English, arithmetic, geography, history and Latin, unless they possess satisfactory evidence that they have done a corresponding amount of work. The course covers graded work for four years of seven months each. The fees are $80 for the first year, $75 each for the second and third and $105 for the fourth year. The Dean is Dr. Eldridge C. Price, 1012 Madison Ave., and the Registrar is Dr. L. R. Palmer, 1021 Madison Ave. Total registration for 1905-6 was 18; graduates, 5. The sixteenth session begins Oct. 3, 1906, ends May 2, 1907.

BALTIMORE UNIVERSITY SCHOOL OF MEDICINE.—This school, organized in 1884, has a faculty of 8 professors and 16 lecturers, demonstrators, etc., in all 24. The Baltimore University Hospital, Lying-in Hospital and the clinical material used in common with the other schools supply the facilities for practical work. The course is four years of nine months each. The fees are about $100 each year. The Dean is Dr. Hampson H. Biedler, 119 W. Saratoga St. Total registration for 1905-6 was 18; graduates, 7. The next session opens Sept. 6, 1906, and closes June 1, 1907.

## MASSACHUSETTS.

Massachusetts, population 2,805,340, has four medical colleges: Medical School for Harvard University, Boston University School of Medicine, College of Physicians and Surgeons

and Tufts College Medical School. They are all situated in Boston, a city of 594,618 inhabitants. Board and lodging can be obtained from $5 to $7 per week.

### Boston.

MEDICAL SCHOOL OF HARVARD UNIVERSITY.—This was organized in 1782 and has a faculty of 32 professors, 113 associates and assistants, etc., a total of 145. Beside the clinical advantages mentioned, the Boston Lyin-in Hospital, the Boston Dispensary, where 43,918 patients were treated last year; the Infants' Hospital, the Children's Hospital, Long Island Hospital, containing 250 beds, and the Marine Hospital all furnish excellent opportunity to the student for clinical study. Students are also permitted to visit the Free Hospital for Women and Carney Hospital on application to the physicians on duty. Candidates for admission "must present a degree in arts, literature, philosophy or science from a recognized college or scientific school, with the exception of such persons, of suitable age and attainments, as may be admitted by special vote of the faculty in each case. Each candidate is required to hand in the original note book in which he recorded the work performed by him in qualitative analysis, and also to pass a written examination in theoretical and descriptive chemistry. If conditioned in chemistry one year is allowed in which to remove the condition. The laboratories and lecture rooms offer ample facilities and the equipment is good; special facilities are open to those desiring to pursue advanced or original work. The course of study covers four years of nine months each; the course is graded and each corelated group as taken up presents sufficient variety to avoid monotony. A series of written, oral and practical examinations are distributed throughout the course of study. Fees: Matriculation, $5; $200 each year. The Dean is Dr. William L. Richardson, 688 Boylston St. The total registration for 1905-6 was 292; graduates, 66. The 125th session begins Sept. 27, 1906, and ends June 26, 1907.

TUFTS COLLEGE MEDICAL SCHOOL.—This school was organized in 1893 as the Medical Department of Tufts College. It has a faculty of 30 professors, 55 assistants and lecturers, etc., a total of 85. Clinical material is furnished by the Boston City Hospital, Massachusetts Charitable Eye and Ear Infirmary, Free Home for Consumptives, Free Hospital for Women, Boston Dispensary, Cambridge Hospital, St. Elizabeth's Hospital, Carney Hospital and the college dispensary; the student has also the advantages derived from an out-department in connection with the Boston Dispensary. "Graduates of an approved high school, college or university and students having certificates of entrance to a college or university, or holding the State of New York Regents' certificate," also certain approved preparatory school graduates, are admitted without examination; all others must pass an examination in English, Latin, physics and mathematics, including elementary algebra and plane geometry, besides one elective subject to be chosen from American history, French, German, chemistry or biology. The laboratories and lecture rooms are ample in their equipment and capacity. Teaching is carried on by means of lectures, recitations and practical work in the laboratories and clinics; frequent examinations are held during a course and final examination on completing the subject. Graded instruction covering four years of eight months each makes up the full course. The total fees are $150 each year; dissecting material is furnished at cost. The Dean is Dr. Harold Williams. Total number of students for 1905-6 was 375; graduates, 73. The thirteenth session begins Sept. 26, 1906, and ends June 1, 1907.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1880 and has a faculty of 27 professors and 18 lecturers and assistants, a total of 45. Clinical facilities are furnished by the North End Dispensary Hospital, Union General Hospital and the city and state institutions. This school is a member of the Association of American Medical Colleges. The course of study covers graded work for four years of nine months each. The total fees for the first year are $100 and for each of the other years about $110, with a graduation fee of $30. The Dean is Dr. C. H. Cobb, Hotel Oxford, Boston, and the Registrar is Dr. John H. Jackson, 155 Franklin St., Fall River. Total students registered 1905-6, 134; graduates, 20. The twenty-seventh session begins Sept. 19, 1906, and ends June 21, 1907.

BOSTON UNIVERSITY SCHOOL OF MEDICINE.—Homeopathic. This school was organized in 1873. In 1874 the New England Female Medical College, founded in 1848, was merged into it. The faculty includes 23 professors, 36 associates and assistants, etc., a total of 59. Clinical material is furnished by the Massachusetts Homeopathic Hospital, containing 235 beds, an out-patient department, a maternity hospital and the Westborough Insane Hospital, 800 patients. Candidates who have taken their degrees in arts, philosophy or science are not examined; certificates of graduation from approved high and preparatory schools accepted in lieu of entrance examinations; all others are examined in English, Latin, French or German, history, mathematics, physics and chemistry. The instruction is graded and covers a period of four years, eight months each. Total fees for the first year are $105; for the second and third, $125 each, and for the last year $155. The Dean is Dr. John P. Sutherland, 302 Beacon St. Total registration for 1905-6 was 100; graduates, 23. The thirty-fourth session opens Oct. 4, 1906, and closes June 5, 1907.

## MICHIGAN.

Michigan, population 2,420,982, has six medical colleges. Two of these, University of Michigan Department of Medicine and Surgery and the Homeopathic College of the University of Michigan, are located at Ann Arbor, a city of 16,033 people. Board and lodging cost from $2.50 to $5 a week. Detroit, a city of 309,653 inhabitants, contains three medical colleges, as follows: Detroit College of Medicine, Detroit Homeopathic College and the Michigan College of Medicine and Surgery. Board and room can be obtained for $3 a week and upward. Grand Rapids Medical College is located in Grand Rapids, population 91,630. Room and board cost from $3 to $3.50 a week.

### Ann Arbor.

UNIVERSITY OF MICHIGAN DEPARTMENT OF MEDICINE AND SURGERY.—This was organized in 1850 and has a faculty composed of 19 professors, 40 associates, instructors, etc., a total of 59. The University Hospital, with nearly 200 beds, furnishes the clinical facilities. The requirements for admission provide that the applicant, either by certificate or examination, show a sufficient knowledge of the following: English grammar, rhetoric and composition; United States and general history; algebra, through quadratics, plane and solid geometry and plane trigonometry; physics, biology and chemistry, these subjects to be accompanied by laboratory work; German or French and Latin. The laboratories and their equipment are good and the training in them and in didactic work is thorough. The new medical building, accommodating the laboratories of hygiene, bacteriology, physiologic chemistry, pathology, histology, embryology and anatomy, is now completed and occupied. This school is a member of the Association of American Medical Colleges. The curriculum embraces four years of nine months each. A combined course leading to degrees in both arts and medicine in six years is offered. The total fees for Michigan students for the entire course of four years is about $300, and for others $350. The Dean is Dr. Victor C. Vaughan. Total registration for 1905-6 was 442; graduates, 70. Next session begins Sept. 25, 1906, and will end June 20, 1907.

HOMEOPATHIC COLLEGE, UNIVERSITY OF MICHIGAN.—This department of the university was organized in 1875 and has a faculty of 29 professors and 21 assistants, total 50; a part of the teaching force is from the other departments of the university. The Homeopathic Hospital, containing 140 beds, furnishes material for clinical teaching. The course covers four years of nine months each. The total fees for Michigan students are about $240 for the four years, and for other students about $295. The Dean is Dr. W. B. Hinsdale. The enrolment for 1905-6 was 80; graduates, 17. The next session begins Sept. 25, 1906, and closes June 20, 1907.

### Detroit.

DETROIT COLLEGE OF MEDICINE.—This school was formed in 1885 by the union of Detroit Medical College, organized in 1868, and the Michigan College of Medicine, established 1880. The faculty embraces 21 professors, 71 lecturers, instructors, etc., a total of 92. Clinical facilities are offered by the following hospitals: St. Mary's and Harper, each of which contains a free dispensary; Woman's St. Luke's, the Children's Free Hospital and the House of Providence. This school is a member of the Association of American Medical Colleges. The course covers four years of eight months each. The work includes laboratory, didactic and clinical study. Fees: Matriculation, paid once, $5; tuition, each term, $65; hospital and laboratory tickets, each $10, and diploma fee, $30. The Secretary is Dr. H. O. Walker. Total enrolment for 1905-6 was 173; graduates, 82. The next session begins Sept. 19, 1906, and will close May 30, 1907.

MICHIGAN COLLEGE OF MEDICINE AND SURGERY—SAGINAW VALLEY MEDICAL COLLEGE.—These two schools, organized in 1888 and 1896 respectively, were consolidated last year, to continue on the site of the former. The faculty numbers 51. Clinical facilities are offered by a college dispensary, the Emergency Hospital and Detroit Eye and Ear Infirmary. This school is a member of the Association of American Medical Colleges. The course covers graded work for four years of eight months each. The fees are about $80 to $95 per year; third year, $70, and $95 for the fourth year. The Dean is Dr. Hal. C. Wyman, 46 West Adams Ave. Total registration for 1905-6 was 68; graduates, 22. The next session begins Sept. 18, 1906, and will end May 17, 1907.

DETROIT HOMEOPATHIC COLLEGE.—This was organized in 1890 and has a faculty of 36. Grace Hospital and a college dispensary are available for study of clinical cases. Unless possessing at least a high school diploma applicants for admission will be examined by the state board. The course embraces work for four years of eight months each. Fees: From $70 to $90 per year. The Dean is Dr. D. A. MacLachlan; Registrar, J. M. Griffin. Total enrolment for 1905-6 was 33; graduates, 15. The next session begins Sept. 15, 1906, and will close May 15, 1907.

### Grand Rapids.

GRAND RAPIDS MEDICAL COLLEGE.—This was organized in 1897. The faculty is made up of 27 professors and 6 assistants, in all 33. Clinical cases in the Union Benevolent Association, St. Mary's and Woman's hospitals and St. John's Orphan Asylum and a college dispensary are available for study. The course is four years of eight months each. The total fees are about $85 for each year. The Dean is Dr. G. L. McBride, 257 East Fulton St. Total registration for 1905-6 was 40; graduates, 12. The next session opens Sept. 12, 1906, and closes May 18, 1907.

## MINNESOTA.

Minnesota, population 1,751,394, contains three medical colleges: Hamline University College of Medicine and the two medical departments of the University of Minnesota, viz., the College of Medicine and Surgery and the College of Homeopathic Medicine and Surgery. They are all situated in Minneapolis, which, together with St. Paul, which is in close proximity, has a population of 386,150. The various hospitals of Minneapolis and St. Paul furnish ample clinical material. The average cost of board and lodging is $20 a month.

### Minneapolis.

COLLEGE OF MEDICINE AND SURGERY, UNIVERSITY OF MINNESOTA.—This department of the University of Minnesota was created in 1883, but at that time its only function was to examine for the

degrees of B.M. or M.D. In 1888, by the consolidation and absorption of the Minnesota Hospital Medical College and the St. Paul Medical College, its present status was assumed. The faculty is composed of 30 professors and 75 instructors and assistants, a total of 105. The medical school occupies seven buildings, and its laboratories are excellent. Eight large hospitals in the Twin Cities, beside the university dispensary and St. Paul Dispensary, afford an abundant supply of material for clinical study. The curriculum covers four years of nine months each and the work is carefully graded. The entrance requirement of two years of university in addition to four years of high school work limits the number of students, but assures a high standard of the student body. This school is a member of the Association of American Medical Colleges. Total number of students registered in 1905-6 was 189; graduates, 43. Total fees for each year, $100. The Dean is Dr. F. F. Wesbrook. The next session opens Sept. 13, 1906, and closes June 9, 1907.

COLLEGE OF HOMEOPATHIC MEDICINE AND SURGERY.—This is a department of the University of Minnesota and was organized in 1888. The faculty comprises 19 professors and 14 assistants, 33 in all. Instruction in the primary branches is received, in common with the students of the College of Medicine and Surgery, from the professor of the department of medicine. The course is graded, extending over four years of nine months each. The total fees for the first two years are $100 each and $80 each for the last two years. The Dean is Dr. Eugene L. Mann. Total number of students registered in 1905-6 was 15; graduates, 1. The next session opens Sept. 13, 1906, and closes June 9, 1907.

MINNEAPOLIS COLLEGE OF PHYSICIANS AND SURGEONS.—Medical Department of Hamline University. This was organized in 1883. Its faculty is composed of 29 professors and 17 instructors, a total of 46. The laboratories and lecture rooms are large, well lighted and supplied with all the necessary equipment. Clinical work is offered to the student in City Hospital, Asbury Methodist Hospital, St. Barnabas and St. Mary's hospitals in Minneapolis, Luther Hospital, City and County and St. Joseph's in St. Paul and the college dispensary. This school belongs to the Association of American Medical Colleges. The course of study covers graded work for four years, eight and a half months making a year. Total fees, first year, $90; second year, $92.50, and for each of the last two $80. The Dean is Dr. George C. Barton. Total number of students, 1905-6, was 120; graduates, 27. The next session begins Sept. 18, 1906, and ends June 5, 1907.

## MISSISSIPPI.

Mississippi, population 1,551,270, has two medical colleges: The Medical Department of the University of Mississippi, located at Oxford, a city of 2,000 inhabitants, and the Mississippi Medical College, at Meridian, with a population of 15,079.

### Oxford.

UNIVERSITY OF MISSISSIPPI MEDICAL DEPARTMENT.—This school was organized two years ago with 6 professors and 2 assistants, a total of 8. Each college term extends over nine months. Only two years of the medical course are given. The school is a member of the Association of American Medical Colleges. Dr. W. S. Leathers is the Acting Dean. The total registration in 1905-6 was 22; graduates, none. The next session begins Sept. 21, 1906, and ends June 7, 1907.

### Meridian.

MISSISSIPPI MEDICAL COLLEGE.—Organized in 1906 with 15 professors and a corps of demonstrators. Buildings are in course of construction. The Dean is Dr. N. L. Clark. The first session will begin Oct. 1, 1906.

## MISSOURI.

Missouri, population 3,106,665 has eleven medical colleges. St. Louis, population 612,279, contains six of these, viz., St. Louis College of Physicians and Surgeons, American Medical College, Homeopathic Medical College of Missouri, Medical Department St. Louis University (Marion-Sims-Beaumont College of Medicine), Washington University Medical Department and Barnes Medical College. Board and lodging can be procured for from $3.50 to $5 a week. Kansas City, with 173,064 inhabitants, has three colleges, namely: University Medical College, the Hahnemann Medical College of Kansas City and Eclectic Medical University. Room and board can be obtained in this city for from $3 to $5 a week. Ensworth-Central Medical College is located in St. Joseph, population 110,479. Board and room can be had for from $3.50 to $5 a week. Department of Medicine of the University of Missouri is at Columbia, a town of 5,651. Board and lodging can be obtained at Columbia for from $2 to $5 a week.

### Columbia.

DEPARTMENT OF MEDICINE OF THE UNIVERSITY OF MISSOURI.—This department was organized at Columbia in 1872. The faculty includes 11 professors, 19 assistant professors, lecturers, etc., a total of 30. Clinical facilities are supplied by the Parker Memorial State Hospital. A new $40,000 building for the medical laboratories has recently been completed and has excellent equipment. Special emphasis is laid on thorough training in the scientific branches which constitute the foundation of medicine. Four years' course, nine months each, carefully graded. The university offers also a combined course of six years, conferring degrees in both arts and medicine. The candidate for entrance must present, beside the diploma from a recognized four-year high school, credentials of college work as follows: English, 6 hours; German, 6 hours; general zoology, 6 hours; general physics, 6 hours; inorganic chemistry, 6 hours. This school is a member of the Association of American Medical Colleges. There is no charge for tuition, the only expenses being a library fee of $10 each year and small laboratory fees. The Dean is Dr. A. W. McAlester. Total registration of students for 1905-6 was 98; graduates, 8. The next session opens Sept. 18, 1906, and closes June 7, 1907.

### Kansas City.

UNIVERSITY MEDICAL COLLEGE.—This was organized in 1881 as the University of Kansas City Medical Department, and in 1888 was reorganized under its present name. Its faculty comprises 29 professors and 41 lecturers and assistants, a total of 70. Clinical material is furnished by the University Hospital, owned by the college, with 100 beds; the City Hospital, German Hospital, Home for the Aged, containing 147 beds; the Sisters' Hospital, Scarritt and St. Margaret's hospitals, the Children's Home, St. Joseph's Orphan Asylum and the college dispensary and obstetric department. Instruction is given by means of lectures, recitations, demonstrations and laboratory work and clinics. The school is a member of the Association of American Medical Colleges. The college building, which has recently been enlarged, furnishes ample accommodations for laboratories and lecture rooms. The course of study covers four years of thirty weeks each and the work is graded. The total fees for each of the first two years are $100; for the third, $80 and $100 for the fourth year. The Dean is Dr. Samuel C. James, Bryant Bldg. The total number of student registered in 1905-6 was 235; graduates, 54. The twenty-fifth session begins Sept. 6, 1906, and ends April 24, 1907.

KANSAS CITY HAHNEMANN MEDICAL COLLEGE.—This school was formed by the union of the Kansas City Homeopathic Medical College, organized in 1888, and the Kansas City University College of Homeopathic Medicine and Surgery. It has a faculty of 37. The City Hospital, Homeopathic Hospital, the Sanitarium, Scarritt, University, Women and Children's, German, Bethany and Children's hospitals are open to its students for clinical study. The college dispensary and clinics also supply clinical material. Applicants for admission must show by diploma, certificate or examination that they have a sufficient knowledge of English, arithmetic, geography, United States history and Latin equal to one year's work. The course covers four years of seven months each. The Dean is Dr. Frank Elliott, 1023 Grand Ave. Total registration for 1905-6 was 76; graduates, 21. The next session begins Sept. 12, 1906, and closes April 15, 1907.

ECLECTIC MEDICAL UNIVERSITY.—This was organized in 1898, and has 25 in its faculty. The curriculum covers four years of seven months each. Fees, about $70 each year, with a graduation fee of $15. The Dean is Dr. Theodore Doyle. Total number of students for 1905-6 was 46; graduates, 16. The ninth session begins Sept. 11, 1906, and ends March 29, 1907.

### St. Joseph.

THE ENSWORTH CENTRAL MEDICAL COLLEGE.—This college was organized in 1876 as the St. Joseph Hospital Medical College. In 1882 it merged with the College of Physicians and Surgeons to form the St. Joseph Medical College. In 1888 changed name to Ensworth Medical College. In 1905 merged with the Central Medical College, organized in 1894, to form the Ensworth-Central Medical College. The faculty is composed of 28 professors, 13 lecturers and assistants, 41 in all. The Ensworth Deaconess Hospital with 100 beds; St. Joseph's with 250 beds; City Hospital containing 40 beds; the State Hospital, No. 2, which is open to the students once a week, and a college dispensary furnish clinical material. Applicants for admission must show by certificate or diploma, or examination that they possess an education equal to that of a graduate from a high school. The building furnishes ample laboratory and lecture room facilities. The curriculum covers a graded course of four years of seven months each. The fees are $75 for each of the first three years; the fourth year, $95. The Secretary is Dr. T. E. Potter. Total enrolment for 1905-6, 149; graduates, 34. The next session opens Sept. 10, 1906, and will close about May 10, 1907.

### St. Louis.

WASHINGTON UNIVERSITY MEDICAL DEPARTMENT.—This school was organized in 1891 from the St. Louis Medical College, which was founded in 1842. In 1899 the Missouri Medical College, organized in 1840, was added. The faculty comprises 39 professors, 35 lecturers and instructors, a total of 74. Clinical material is furnished by the St. Louis Mullanphy Hospital, Washington University Hospital and Dispensary, Washington University Lying in Hospital, Bethesda Hospital and O'Fallon Dispensary. In addition to these, the City Hospital and Insane Asylum are used in common with the other schools. The Medical Department is a member of the Association of American Medical Colleges. The college buildings, of which there are two, furnish the best laboratory and lecture-room facilities. The course is four years of eight months each, and the system of study embraces laboratory, didactic and clinical teaching. The total fees for the first year are $126.25; second, $120.25; and for the third, $106.25, and fourth, $101.25. The Dean is Dr. Robt. Luedeking. Total registration of students for 1905-6 was 239; graduates, 55. The next session opens Sept. 28, 1906, and closes May 30, 1907.

ST. LOUIS UNIVERSITY MEDICAL DEPARTMENT (Marion Sims-Beaumont College of Medicine).—The faculty is composed of 42 professors, 63 lecturers and assistants, a total of 105. Clinical facilities are offered by Alexian Brothers' Hospital, with 250 beds; Rebekah Hospital, having a capacity of 50 patients; Josephine Hospital, 50 beds; Mt. St. Rose Throat and Chest Hospital, 150 beds; St. John's Hospital, 125 beds; St. Ann's Lying-in Hospital, 200 beds; St. Mary's Infirmary, containing 150 beds; the City Hospital and Insane Asylum, each with a capacity of 600 patients. Grand Avenue Dispensary also furnishes good material for practical instruction. This school is a member of the Association of American Medical Colleges. The buildings afford ample laboratory and lecture-room space, and they are well equipped. The course of study embraces laboratory and clinical instruction, with recitations and lectures. The curriculum covers four years of seven months each. The total fees for the first year are $100; for the second, third and fourth, $95 each. The Secretary is Dr. H. W.

Loeb, 537 North Grand Ave. Total number of students registered for 1905-6 was 295; graduates, 116. The next session opens Oct. 1, 1906, and closes May 20, 1907.

ST. LOUIS COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1878, and has a faculty of 24 professors, 15 lecturers, instructors, etc., a total of 39. The resources for clinical instruction are Jefferson Hospital, which is open to students of this college only; City Hospital, with 600 beds; Female Hospital, having 250 beds; City Insane Asylum; City Poorhouse, and the college dispensary. This college is a member of the Association of American Medical Colleges. The laboratory and lecture-room space and the equipment are ample. The course of study covers four years of seven months each, and is graded. Total fees for the first year are $80; second and third, $75 each and $85 for the fourth year. The Dean is Dr. Waldo Briggs, 2600 Gamble St. Total number of students registered, 1905-6, was 278; graduates, 53. The next session begins Sept. 15, 1906, and ends May 1, 1907.

BARNES MEDICAL COLLEGE.—(Medical Department Barnes University.) This school was organized in 1892, and has a faculty of 37 professors and 25 lecturers and assistants, a total of 62. The clinical advantages are those offered by Centenary Hospital, with 150 beds; City Hospital, the college dispensary and the outdoor obstetrical department. The laboratories are well equipped and other facilities ample. The course of study includes graded work for four years of eight months each. The total fees for the first three years are $80 each year, and $90 for the fourth year. The Secretary is Dr. C. M. Ament, 1025 Missouri Trust Bldg. Total registration for 1905-6 was 385; graduates, 72. The next session opens Sept. 11, 1906, and closes May 10, 1907.

AMERICAN MEDICAL COLLEGE.—Eclectic. This was organized in 1873, and has a faculty of 17 professors. St. Louis City Hospital and a college dispensary supply ample clinical material. The requirements for admission are those of the National Confederation of Eclectic Medical Colleges of which this college is a member. The course of study covers four years of seven months each. The total fees are: Tuition, $75 per year, dissecting material, $5 per year for four years, final examination and graduation fee $25. Total registration for 1905-6 was 63; graduates, 22. The Dean is Dr. M. M. Hamlin, 2906 Lawton Ave. The next session opens Sept. 17, 1906, and closes April 18, 1907.

HOMEOPATHIC MEDICAL COLLEGE OF MISSOURI.—This was organized in 1857, and has a faculty of 26 professors and 6 assistants, total, 32. The curriculum covers four years of seven months each. Fees: First year, $80; second, $75, third, $60, and $75 for the fourth year. The Dean is Dr. L. C. McElwee, 1221 North Grand Ave. Total registration for 1905-6 was 46; graduates, 4. The next course begins Sept. 10, 1906, and ends April 20, 1907.

## NEBRASKA.

Nebraska, population 1,066,300, has four medical colleges: The University of Nebraska College of Medicine and John A. Creighton Medical College of Omaha, population 113,361, and Lincoln Medical College, and the Nebraska College of Medicine at Lincoln, population 44,243. Board and lodging can be obtained for from $3 to $5 a week.

### Lincoln and Omaha.

UNIVERSITY OF NEBRASKA COLLEGE OF MEDICINE.—This was organized in 1880 as the Omaha Medical College. In 1902 an affiliation was entered into with the University of Nebraska, the name being changed to the College of Medicine of the University of Nebraska. The first two years are given at Lincoln. The last two years are given only at Omaha. The faculty is composed of 26 professors and 34 lecturers and assistants, total 60. The Douglas County, Immanuel, Wise Memorial and Omaha Methodist hospitals, together with the college dispensary, furnish an abundance of material for clinical study and demonstration. The course consists of graded studies covering four years of eight months each. The method of instruction consists of didactic and clinical lectures, section clinics, demonstrations, recitations and laboratory work. The college building is well adapted to its purpose, the laboratories being well equipped and the lecture room commodious. The fees, including breakage deposits, are $90 for the first two years, and $100 for the last two years. The college is a member of the Association of American Medical Colleges. Total number of students enroled in 1905-6, 142; graduates, 7. The Secretary is Dr. Geo. H. Bicknell, Karboch Block, Omaha. The next annual session begins Sept. 20, 1906, and ends May 25, 1907.

### Omaha.

JOHN A. CREIGHTON MEDICAL COLLEGE.—This school, organized in 1892, is the Medical Department of Creighton University, and has a faculty of 28 professors and 26 associates, lecturers and assistants, a total of 54. The clinical facilities are those of St. Joseph's Hospital, containing 300 beds and having a clinical amphitheater connected with it; St. Bernard's Hospital, with 256 beds; Omaha General Hospital, with 100 beds; Douglas County Hospital; Mercy Hospital, and the college dispensary. Clinical material is abundant and varied. The building, which was completed in 1898, contains excellent facilities for laboratory and lecture-room work, and the equipment is adequate. In the methods of instruction including clinical, didactic and laboratory work, special emphasis is laid on practical work. The school is a member of the Association of American Medical Colleges. The course of study embraces four years of eight months each. The total fees for the first two years are $90 each, and $85 for each of the last two years. The Dean is Dr. D. C. Bryant, McCague Bldg. Total number of students registered in 1905-6 was 172; graduates, 39. The fifteenth sessions begins Sept. 4, 1906, and ends May 4, 1907.

### Lincoln.

LINCOLN MEDICAL COLLEGE.—Eclectic. This was organized in 1889, and has a faculty of 22. The requirements for admission are those of the National Confederation of Eclectic Medical Colleges, of which this college is a member. The course of study covers four years of thirty weeks each. The total fees for the first year are $80; second, $75; third, $75, and $85 for the fourth year, or $250 for all four years together. The Secretary is Dr. Earl E. Boyd. Total number of students for 1905-6 was 71; graduates, 15. The next session begins Sept. 13, 1906, and ends April 27, 1907.

NEBRASKA COLLEGE OF MEDICINE.—This college was organized in 1905. Its faculty consists of 23 professors and 5 assistants, a total of 28. Its course covers four years of eight months each. The Dean is Dr. J. F. Stevens. Registration of students during 1905-6 was 10; no graduates. The second session begins Sept. 19, 1906, and ends June 1, 1907.

## NEW HAMPSHIRE.

New Hampshire, population 411,588, contains one medical college, located in Hanover, population 1,884.

### Hanover.

DARTMOUTH MEDICAL SCHOOL.—This is the Medical Department of Dartmouth College, and was organized in 1797. Its faculty is made up of 18 professors and 3 instructors, 21 in all. The Mary Hitchcock Memorial Hospital, a cottage hospital of 36 beds, supplies the clinical material. Applicants for admission must possess an education at least equivalent to graduation from a registered high school. The laboratories afford good facilities for work. The course covers four years of thirty-two weeks each. Fees: $100 each year. The Dean is Dr. William T. Smith. The total number of students registered for 1905-6 was 59; graduates, 10. The work for the first and second years begins with that of the academic department, commencing Sept. 20, 1906, and closing June 27, 1907; for the advanced classes it begins Aug. 15, 1906, and ends April 1, 1907.

## NEW YORK.

New York State, population 7,268,894, has ten medical colleges. Seven of these, College of Physicians and Surgeons, Columbia University, Long Island College Hospital, New York Homeopathic Medical College and Hospital, New York Medical College and Hospital for Women, Eclectic Medical College of the City of New York, Cornell University Medical College and the University and Bellevue Hospital Medical College, are located in New York City, population 3,716,139. This city, with its hospitals and dispensaries, offers abundant clinical material. Board and lodging can be obtained for from $5 to $7 a week.

Albany Medical College is in Albany, a city of 93,920 people, where board and room can be had for from $4 to $5 a week.

The University of Buffalo Medical Department is situated in Buffalo, population of 381,403. Here board and lodging can be obtained for from $3.50 to $5 per week.

The College of Medicine, Syracuse University, is in Syracuse, a city of 114,443 inhabitants. Board and lodging can be obtained for from $3.50 a week upward.

### New York City.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1807 and its present relation, that of Medical Department of Columbia University, was assumed in 1860. The faculty embraces 34 professors and 174 demonstrators, instructors, etc., a total of 208. The Vanderbilt Clinic, where 45,355 patients were treated during the year 1905, and which is equipped with all modern appliances for the study and treatment of disease, and Sloane Maternity Hospital, containing 124 beds, offer exclusive clinical advantages to students of this school. The college is strongly represented on the staffs of most of the general and special hospitals of New York. In them both required and optional practical instruction is given by clinical lectures, in the dispensaries, and at the bedside, all of which are prominent features of the curriculum. These hospitals are as follows: Roosevelt, Bellevue, New York, Presbyterian, St. Luke's, General Memorial, Hospital for the Ruptured and Crippled, St. Mary's Free Hospital for Children, Willard Parker, Scarlet Fever and Reception, Riverside, New York Eye and Ear Infirmary, foundling, and the Babies' Hospital. The laboratories, lecture rooms and amphitheaters are ample in equipment and accommodation; special provisions are made to equip each student thoroughly in each of the laboratories and thus make the work individual. The work is graded, covering four years of eight months each. The Dean is Dr. Samuel W. Lambert. The total fees for the first year are $255; for the second and third, $250 and $275 for the fourth year. Total registration for 1905-6 was 450; graduates, 152. The next session begins Sept. 26, 1906, and ends June 12, 1907.

LONG ISLAND COLLEGE HOSPITAL.—This was organized in 1858 and has a faculty of 20 professors and 75 assistants, instructors, etc., a total of 95. Long Island College Hospital, containing 300 beds and connected with a four-story maternity hospital; Polhemus Memorial Clinic, Dudley Memorial and Hoagland Laboratory, completely equipped with the most modern apparatus, are all a part of the college. Beside the clinical facilities furnished by these, members of the faculty attend at Kings County, St. John's, Brooklyn, Norwegian, Williamsburg, Methodist Episcopal and the Brooklyn Eye and Ear hospitals, where the students are offered opportunities for clinical study. Many of these also contain outpatient departments, thus permitting advanced students to attend personally to cases. Bedside instruction is also given in the wards. The course covers four years of thirty weeks each. Fees: First year, $195; second, $200; third, $160, and $195 for the fourth year. The Secretary is Dr. Joseph H. Raymond. Total registration, 1905-6, was 343; graduates, 72. The forty-ninth session opens Oct. 1, 1906, and closes June 6, 1907.

CORNELL UNIVERSITY MEDICAL COLLEGE.—This department of Cornell University was established in 1898. The faculty is composed of 45 professors and 162 instructors and assistants, a total of 207. The City Hospital, having 1,000 beds; Bellevue Hospital, New York Hospital, Presbyterian, Willard Parker and Reception with 200 beds; New York Skin and Cancer; St. Francis, having a capacity of 230 beds; St. Vincent's, with 200 beds; the Manhattan Eye and Ear Infirmary, in addition to a large college dispensary, furnish the clinical resources; the material is abundant and varied. The first two years of the course are taken at New York or at Ithaca, and the work is devoted to the fundamental scientific subjects. The last two years are spent mostly in practical and clinical work and the hospital advantages are utilized. The Loomis Laboratory, a five-story modern building, is well equipped and supplies ample practical laboratory facilities required in the advanced work. "The essential features of the entire system is the division of the classes of the several years into small sections." Fees: First year, $190; second and third, $185 each, and $200 for the fourth year. The Dean is Dr. William M. Polk. Total registration for 1905-6 was 369; graduates, 59. The next session opens Sept. 26, 1906, and closes June 12, 1907.

UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.—This is a department of the New York University, and was founded in 1898 by the union of the New York University Medical College, organized in 1841, and the Bellevue Hospital Medical College, organized in 1861. The faculty is composed of 39 professors and 64 instructors, assistants, etc., in all 103. Bellevue and City Hospitals, hospitals of the workhouse and almshouse, Manhattan State Hospital for the Insane, Willard Parker and Reception hospitals, Riverside Hospital for Contagious Diseases, Randall's Island, Presbyterian, St. Luke's, St. Vincent's, General Memorial, Gouverneur, Columbus, Harlem, New York Foundling and the Society for the Lying-in hospitals, the New York Eye and Ear Infirmary and a large college dispensary are open to students of this school for a study of clinical cases. The Carnegie building, a five-story structure adjoining the college, is devoted to laboratory instruction and investigation, and, with the other two large college buildings, affords good laboratory and lecture-room facilities. A new six-story addition to the laboratory building has just been completed. The course of instruction covers four year sof eight months each. Actual clinical teaching, in conjunction with and founded on laboratory work, recitation and didactic teaching, is emphasized to the greatest possible degree. Fees: First year, $185; second and third, $180 each, and $195 for the fourth year. The Dean is Dr. Egbert Le Fevre. Total registration for 1905-6 was 481; graduates, 53. The next session opens Oct. 3, 1906, and closes June 6, 1907.

NEW YORK HOMEOPATHIC MEDICAL COLLEGE AND HOSPITAL.—This school, organized in 1858, has a faculty of 35 professors and 44 lecturers, instructors, etc., 79 in all. Flower Hospital, adjoining the college and having a completely equipped out-patient department; Metropolitan Hospital, New York Ophthalmic Hospital and the Laura Franklin Free Hospital for Children also furnish clinical facilities. The course covers four years of seven months each. Total fees for the first year, $130; second, $130; third, $125, and $155 for the fourth year. The Dean is Dr. W. H. King, 64 West Fifty-first St. Total students registered for 1905-6 was 110; graduates, 30. The next session begins Oct. 2, 1906, and ends May 16, 1907.

NEW YORK MEDICAL COLLEGE AND HOSPITAL FOR WOMEN.—Homeopathic. This school was organized in 1863 and has a faculty of 17 professors, 21 lecturers and assistants, total 38. The college hospital and dispensary, the Memorial Hospital for Women, Metropolitan, Ophthalmic and the Laura Franklin Free Hospital for Children afford clinical material. The course covers four years of twenty-six weeks each. Fees: First year, $145; second, $140; third, $135, and $155 for the fourth year. The Dean is Dr. Helen Cooley Palmer, 5 West Eighty-second St. Total registration for 1905-6 was 20; graduates, 6. The next session opens Oct. 1, 1906, and closes May 14, 1907.

ECLECTIC MEDICAL COLLEGE OF THE CITY OF NEW YORK.—This was organized in 1865 and has a faculty of 16 professors and 17 lecturers, demonstrators, etc., 33 in all. A college dispensary, Beachonian Dispensary, Manhattan and Red Cross Hospitals and Muncie Sanatorium supply clinical facilities. The work covers four years of seven months each. The total fees: First year, $125; second, $125; third, $125, and $155 for the fourth year. The Dean is Dr. George W. Beskowitz. Total registration for 1905-6 was 105; graduates, 15. The next session opens Sept. 27, 1906, and closes May 1, 1907.

### Albany.

ALBANY MEDICAL COLLEGE.—This school was organized in 1838, and in 1873 it assumed its present relations as Medical Department of Union University. The faculty is composed of 15 professors and 65 lecturers, instructors and assistants, a total of 80. Albany, St. Peter's, Child's and County hospitals, South End Dispensary, Eye and Ear Infirmary and the Albany Hospital for Incurables, also the free dispensaries connected with each, are open to students for clinical study. The curriculum embraces graded work for four years of seven and one-half months each. Teaching is carried on in the laboratories, clinics and lecture rooms. Examinations are held twice a year in all subjects. Fees: First year, $130; second year, $145; third year, $120, and fourth year, $130. The Dean is Dr. Samuel B. Ward. Total registration for 1905-6 was 165; graduates, 32. The next annual session opens Sept. 25, 1906, and closes May 7, 1907.

### Buffalo.

UNIVERSITY OF BUFFALO MEDICAL DEPARTMENT.—This was organized in 1846 and has a faculty made up of 47 professors and 45 assistants, lecturers, etc., a total of 92. Buffalo General Hospital, Hospital of the Sisters of Charity, Erie County and German hospitals and the German Deaconess' Hospital supply ample clinical material for study. A college dispensary, recently organized, is also of value in practical work. The buildings and hospitals are well equipped for clinical and laboratory work. Bedside instruction is insisted on and the senior students are permitted to assist in operations and give anesthetics. This school is a member of the Association of American Medical Colleges. The course covers four years of eight months each. The tuition is $125 each year; this does not include laboratory fees. The Dean is Dr. Matthew D. Mann, 37 Allen St. Total registration for 1905-6 was 225; graduates, 44. The sixty-first session opens Sept. 24, 1906, and closes May 31, 1907.

### Syracuse.

COLLEGE OF MEDICINE, SYRACUSE UNIVERSITY.—This school was organized in 1872 as the Medical Department of Syracuse University. The faculty is composed of 14 professors and 40 lecturers, instructors, etc., in all 54. Clinical facilities are furnished by St. Joseph's Hospital, Hospital of the Good Shepherd, Syracuse Hospital for Women and Children, Onondaga County Orphan Asylum and the Syracuse Free Dispensary. The laboratories and amphitheaters are large and well equipped. The curriculum embraces a four years' graded course, eight months making a school year. The average total fees for each of the four years is $167.25. The Dean is Dr. Gaylord P. Clark, 619 West Genessee St. Total number of students registered for 1905-6 was 153; graduates, 23. The next session opens Oct. 2, 1906, and closes June 12, 1907.

## NORTH CAROLINA.

North Carolina, population 1,893,810, has four medical schools which grant degrees and one which gives only the first two years of the medical course. The Medical Department of the University of North Carolina is located at Chapel Hill, population 1,100, and at Raleigh, population 13,934. The Leonard School of Medicine is at Raleigh. The North Carolina Medical College is located at Davidson, population 904, and at Charlotte, population 20,050. Wake Forest School of Medicine is at Wake Forest, population 823.

### Chapel Hill and Raleigh.

UNIVERSITY OF NORTH CAROLINA MEDICAL DEPARTMENT.—This school was organized in 1891 and formerly gave only the work of the first two college years at Chapel Hill. In 1902 the course was extended to four years by the establishment of a department at Raleigh, in which the last two years are given. Degrees are now conferred and the faculty in the completed school of medicine numbers 39. It is a member of the Association of American Medical Colleges. The number of students enroled in 1905-6 was 94, graduates, 11. Total fees are $85 per year. Board, room, light and heat may be had for from $84 to $102 per college year. The President is Dr. F. P. Venable, Chapel Hill. The Dean of the Department at Raleigh is Dr. H. A. Royster. The next session will begin Sept. 10, 1906, and end June 7, 1907.

### Raleigh.

LEONARD SCHOOL OF MEDICINE.—Colored. This department of Shaw University was established in 1882 by the American Baptist Home Mission Society to train colored students of medicine. It has a faculty of 10. A free hospital and dispensary supply clinical material. A preliminary entrance examination is given to applicants not possessing a certificate or diploma of educational requirements. The course covers four years of seven months each. The total fees for each year are $75. The dormitory plan is adopted generally, and board and room cost $2 a week. The Dean is Dr. James McKee. Total enrolment for 1905-6 was 147; graduates, 33. Next session opens Oct. 1, 1906, and closes May 1, 1907.

### Davidson and Charlotte.

NORTH CAROLINA MEDICAL COLLEGE.—This school was organized in 1893 and has a faculty of 16 professors and 8 assistants, a total of 24. The Presbyterian Hospital in Charlotte supplies the clinical facilities. The course covers four years of eight months each, the last two years being given at Charlotte. Fees: First three years, $85 each, and $100 for the fourth year. The President is Dr. J. P. Monroe, of Davidson. Dr. I. W. Faison, Charlotte, is Dean of the Charlotte faculty. The total registration for 1905-6 was 92; graduates, 24. The next session begins Sept. 6, 1906, and closes April 15, 1907.

### Wake Forest.

WAKE FOREST SCHOOL OF MEDICINE.—This school was organized in 1902. It only gives the first two years of the medical course. Each annual course extends over nine months. The school is a member of the Association of American Medical Colleges. It has a faculty of 10 and last year enroled 20 students. The fees are $85 a year. The Dean is Dr. Frederick K. Cooke. The next session opens Aug. 29, 1906, and closes June 1, 1907.

## NORTH DAKOTA.

North Dakota, population 319,146, has one medical college, the College of Medicine of the State University of North Dakota, which is situated at University. Only the first two years of the medical course are given, which may be elected as the last two years of the A.B. degree.

### University.

UNIVERSITY OF NORTH DAKOTA COLLEGE OF MEDICINE.—This department was organized in 1905. The faculty is composed of 5 professors and 7 instructors, a total of 12. The course consists of two years' academic work and two years of medical college subjects, occupying nine months each year. The completion of this work in a satisfactory manner entitles the student to the A.B. degree from this institution, and a certificate of completion of the medical subjects embraced in the course. The total fees for each of the medical subject years are $50. The Dean is M. A. Brannon. The enrolment during 1905-6, the first session, was 7. The second session begins Sept. 25, 1906, and closes June 13, 1907.

## OHIO.

Ohio, population 4,157,545, has ten medical colleges. Four of these, the Medical College of Ohio, Eclectic Medical Institute, Miami Medical College and Pulte Medical College are located in Cincinnati, a city of 332,934 inhabitants. The clinical advantages of Cincinnati are good; beside many smaller hospitals, the Cincinnati Hospital is open to the students for study. Board can be procured in Cincinnati for from $3 to $5 per week. The Laura Memorial Woman's Medical College has ceased to exist.

Cleveland, population 414,950, contains three medical schools: Western Reserve University Medical College, Cleveland College of Physicians and Surgeons and the Cleveland Homeopathic Medical College. The City Hospital, with 275 beds, is used in common by them for clinical study. Board and lodging can be had for from $2.50 to $5 a week.

Columbus, population 135,487, contains two; Starling Medical College and Ohio Medical University. Board and lodging cost from $2.50 to $5 per week.

Toledo, with 145,901 people, has one medical school, Toledo Medical College. It has good clinical advantages. Board and room can be had for from $3 to $5 a week.

### Cincinnati.

MEDICAL COLLEGE OF OHIO.—This is the Medical Department of the University of Cincinnati, organized in 1819, and has a faculty made up of 25 professors, 24 lecturers and assistants, a total of 49, there being also 34 clinicians to the dispensary. Good Samaritan Hospital, with 100 beds; Cincinnati Hospital, with 550 beds, furnish opportunities for bedside instruction, and a well-equipped college dispensary furnish clinical facilities. The buildings supply ample laboratory and lecture-room space and their equipment is good. The course of study is graded and covers four years of eight months each. This school is a member of the Association of American Medical Colleges. The lecture fees are $125 each year for each student entering after July 1, 1903; $100 each year for those who have matriculated prior to July 1, 1903. In addition there is a matriculation fee of $5, payable but once, and a graduation fee of $25. Total registration of students for 1905-6 was 137; graduates, 33. The Dean is Dr. F. Forchheimer. The next session begins Sept. 28, 1906, and ends June 1, 1907.

MIAMI MEDICAL COLLEGE.—This school was organized in 1852 and has a faculty of 22 professors and 29 lecturers and demonstrators, a total of 51. The clinical facilities are furnished by the Cincinnati Hospital and a college dispensary. This college is a member of the Association of American Medical Colleges. The curriculum embraces a four-year graded course of eight months each. The total fees are, for the first year, $130; for the second and third, $125, and $150 for the fourth year. The Dean is Dr. J. C. Oliver, 628 Elm St. The total registration for 1905-6 was 78; graduates, 24. The next session opens Oct. 1, 1906, and closes June 1, 1907.

ECLECTIC MEDICAL INSTITUTE.—This school, organized in 1845, has a faculty of 17 professors and 12 lecturers and assistants, a total of 29. The Seton Hospital, Cincinnati Hospital and a college dispensary furnish clinical material. It is a member of the National Confederation of Eclectic Medical Colleges. The course covers four years of thirty-one weeks each. The fees are $75 for each year, with a graduation fee of $25. The Dean is Dr. Rolla L. Thomas, 792 East McMillan St. Total enrolment, 1905-6, was 116; graduates, 35. The next session begins Sept. 17, 1906, and closes April 17, 1907.

PULTE MEDICAL COLLEGE.—Homeopathic. This was organized in 1872 and has a teaching force of 20 professors and 14 assistants, 34 in all. Pulte Hospital, Cincinnati Hospital, Bethesda Hospital, Home of the Friendless and Foundlings and a college dispensary supply clinical material. The curriculum covers four years of seven months each. Fees: First year, $80; for the second and third, $75 each, and $100 for the fourth. The Dean is Dr. Charles E. Walton. Total enrolment for 1905-6 was 13; graduates, 3. The next session opens Oct. 3, 1906, and closes May 1, 1907.

### Cleveland.

THE CLEVELAND COLLEGE OF PHYSICIANS AND SURGEONS.—This school was organized in 1863 as Charity Hospital Medical College, became the Medical Department of Wooster University in 1869 and the Medical Department of the Ohio Wesleyan University in 1896, when it assumed its present title. The faculty is composed of 31 professors, 30 lecturers, assistants, instructors, etc., 61 in all. Cleveland General Hospital, Cleveland City Hospital and a college dispensary are used for regular clinical teaching. St. Alexi's, St. John's, St. Clair and Mount Sinai hospitals are utilized for extramural clinics. This school is a member of the Association of American Medical Colleges. The school is co-educational. The total annual fees are $130. The curriculum covers four years of eight months each. The Dean is Dr. R. E. Skeel, 785 Prospect St. Total enrolment for 1905-6 was 88; graduates, 22. The next term opens Oct. 1, 1906, and closes May 22, 1907.

WESTERN RESERVE UNIVERSITY MEDICAL COLLEGE.—The Medical Department was organized in 1843. Its teaching faculty includes 22 professors, 34 lecturers, demonstrators and assistants, a total of 56. Clinical facilities are offered students of this school by Lakeside Hospital, having 250 beds; St. Vincent's Hospital, having about 150 beds; City Hospital, with 250 beds; St. Alexis Hospital, with 250 beds, and the Home of Maternity, with the dispensary service at Lakeside and Charity hospitals, and a tuberculous dispensary at the college. The laboratory chairs are endowed, the teachers devoting their entire time to teaching and research work. A clinical laboratory has recently been added, where a systematic course of instruction is given. This college is a member of the Association of American Medical Colleges. The curriculum embraces four years of eight and one-half months each. Three years of college work are required for admission to first year of medical course. The total fees are $125 for each year. The Dean is Dr. B. L. Millikin, 1110 Euclid Ave. Total enrolment for 1905-6 was 85; graduates, 12. The next session begins Oct. 1, 1906, and closes June 13, 1907.

CLEVELAND HOMEOPATHIC MEDICAL COLLEGE.—This school was founded in 1897 by a consolidation of Cleveland University of Medicine and Cleveland Medical College, the former of which was incorporated in 1850, and is the second oldest homeopathic medical college in the United States. The faculty includes 35 professors and 18 adjuncts, lecturers, etc., 53 in all. The clinical facilities are obtained from the Cleveland Homeopathic Hospital, the Cleveland City Hospital, the Cleveland Maternity Hospital, and a college dispensary. The course embraces four years of thirty weeks each. Fees, $125 per year. The Dean is Dr. George H. Quay. Total number of students registered, 1905-6 was 50; graduates, 14. The next session opens Sept. 26, 1906, and closes May 15, 1907.

### Columbus.

OHIO MEDICAL UNIVERSITY.—This school was organized in 1890, and has a faculty of 22 professors, 6 instructors, 5 assistants and 2 demonstrators, 35 in all. The Protestant Hospital, State Hospital, Ohio Penitentiary Hospital and a college dispensary provide material for clinical work. This school is a member of the Association of American Medical Colleges. The course is four years of 34 weeks each. Fees: First year, $105; second year, $100; third year, $100, and $110 for the fourth year. The Dean is Dr. George M. Waters. Total students for 1905-6 was 142; graduates, 42. The next session begins Sept. 11, 1906, and closes May 7, 1907.

STARLING MEDICAL COLLEGE.—This school was organized in 1847 and has a faculty composed of 19 professors and 20 lecturers, associates, etc., a total of 39. St. Francis Hospital, which is under the control of this faculty; Hawkes' Hospital of Mt. Carmel, the Lawrence Hospital, St. Anthony Hospital and a college dispensary are available for clinical study. This college is a member of the Association of American Medical Colleges. The work covers four years of thirty weeks each. Fees: $100 per year; matriculation fee, $5; graduation fee, $10. The Dean is Dr. Charles S. Hamilton. Enrolment for 1905-6 was 86; graduates, 30. The sixtieth session opens Sept. 12, 1906, and closes May 9, 1907.

### Toledo.

TOLEDO MEDICAL COLLEGE.—The school was organized in 1882, and in 1904 became the Medical Department of Toledo University. It has a faculty of 20 professors, 20 lecturers and assistants, in all 40. Toledo Hospital, St. Vincent's and Robinwood hospitals, Lucas County Infirmary Hospital, Toledo Hospital for the Insane, and a free dispensary supply clinical facilities. This college is a member of the Association of American Medical Colleges. The curriculum embraces four years of eight months each. The fees are $75 for each year, with a matriculation fee of $5, payable once. The Dean is Dr. Park L. Myers, 2730 Monroe St. Total enrolment for 1905-6 was 22; graduates, 9. The next session opens Sept. 22, 1906, and closes May 11, 1907.

## OKLAHOMA.

Oklahoma, population 398,331, has two medical schools, the School of Medicine of the University of Oklahoma, which is located at Norman, a city of 2,225 inhabitants, and the College of Medicine of Epworth University, located at Oklahoma City, which has a population of 12,800.

### Norman.

SCHOOL OF MEDICINE, UNIVERSITY OF OKLAHOMA.—This school was organized in 1903 and gives only the first two years of the medical course, each session extending over a period of nine months. Two courses are offered, one covering two years, at the completion of which a certificate is given; the other a combined course of four years, leading to the degree of B.S. Students are encouraged to take the latter course. The college has a faculty of 10. The school is a member of the Association of American Medical Colleges. Total registration for 1905-6 was 16. The Dean is Dr. R. P. Stoops; the Corresponding Secretary E. M. Williams. The next session begins Sept. 11, 1906, and ends June 13, 1907.

### Oklahoma City.

COLLEGE OF MEDICINE EPWORTH UNIVERSITY.—Organized in 1904, giving only the first year of the medical course. The full four years' course has been given since Oct. 1, 1905. The faculty consists of 15 professors and 12 assistants, instructors, etc., a total of 27. the Oklahoma City, and St. Anthony's hospitals, Amie Rescue Home and a college dispensary furnish material for clinical instruction. The laboratories are well supplied and the lecture rooms are large, well lighted and well ventilated. The entrance requirement is a high school diploma or its equivalent. The course of study embraces graded work for four years of seven months each. The total fees are about $70 each year. The Dean is Dr. A. K. West; Secretary, Dr. H. C. Todd. The registration for 1905-6 was 16; no graduates. The next session begins Oct. 7, 1906, and ends May 7, 1907.

## OREGON.

Oregon, population 413,536, has two medical colleges: Medical Department Willamette University, located in Salem, a city of 4,258 people, and University of Oregon Medical Department, in Portland, a city of 98,655 population. Board and lodging may be obtained in Salem for from $3 to $5 per week and in Portland for from $4 to $6.

### Salem.

MEDICAL DEPARTMENT WILLAMETTE UNIVERSITY.—The school was organized in 1864. The faculty consists of 16 professors and 3 assistants, a total of 19. Clinical facilities for study are supplied by Salem Hospital, and a college dispensary. This school is a member of the Association of American Medical Colleges. The course embraces four years' work of seven months each. Fees: First and second years, $110 each; third, $75, and $50 for the fourth year. The Dean is Dr. W. H. Byrd. Total enrolment for 1905-6 was 50; graduates, 15. The next session begins Oct. 1, 1906, and ends May 10, 1907.

### Portland.

UNIVERSITY OF OREGON MEDICAL DEPARTMENT.—This department of the State University was organized in 1887, and has a faculty of 14 professors and 22 assistants, lecturers, etc., a total of 36. Good Samaritan and St. Vincent's hospitals, containing 200 and 350 beds, respectively, and Multomah County Hospital furnish good material for clinical study. Out-patient clinics are held at Pilgrim Chapel. The requirements for admission are those of the Association of American Medical Colleges, but the members of the faculty do not hold examinations for entrance. The college building is modern and well equipped, presenting ample teaching facilities. The course is four years of seven and one-half months each. Fees: First year, $142.50; second, $137.50; third, $107.50, and for the fourth, $57.50. The Dean is Dr. Simeon E. Joseph. The total number of students for 1905-6 was 82; graduates, 16. The next session opens Sept. 17, 1906, and closes May 1, 1907.

## PENNSYLVANIA.

Pennsylvania, population 6,302,115, has seven medical colleges. Of these Philadelphia, having a population of 1,367,716, contains six, as follows: University of Pennsylvania Department of Medicine, Jefferson Medical College, Hahnemann Medical College, Woman's Medical College of Pennsylvania, Medico-Chirurgical College of Philadelphia and Temple College Department of Medicine. The clinical facilities of Philadelphia present abundant and varied material for study. Beside the individual hospitals connected with each of the schools the charity hospitals are open to all the students in common. Board and lodging cost from $4 a week upward.

The other school, Western Pennsylvania Medical College, is situated in Pittsburg, a city of 345,043 people. The cost of board and lodging is from $4 to $6 a week.

### Philadelphia.

UNIVERSITY OF PENNSYLVANIA DEPARTMENT OF MEDICINE.—This is the first medical college established in this country, having been organized in 1765 as the Medical Department of the College of Philadelphia; the first degree was granted in 1768. When from the College of Philadelphia the University of Pennsylvania was organized in 1791, it became the Medical Department of the University, its present relation. The faculty is made up of 27 professors, 2 associate professors, 4 adjunct professors, 6 assistant professors, 106 demonstrators, lecturers, associates, instructors, etc., a total of 145. Abundant and varied clinical material is furnished by the University Hospital, capacity 300 beds, which treats over 14,000 cases annually; University Maternity Pavilion, with 50 beds; Philadelphia Hospital, containing 1,000 beds; Pennsylvania Hospital, Children's Hospital and the Southeastern Hospital and Dispensary. Special attention is paid to bedside instruction and to thoroughly practical work. Applicants for admission must furnish evidence of the education required to enter the academic department of the university. The buildings known as Medical Hall, Medical Laboratory Building, the laboratories of Pathology, Physiology and Pharmacology, the Laboratory of Hygiene, the Wistar Institute of Anatomy, and the Wm. Pepper Clinical Laboratory supply excellent laboratory and lecture room facilities and are well equipped. The course embraces study for four years of nine months each. The total fees for each year are $200, with a matriculation fee of $5 for the first year. The Dean is Dr. Charles H. Frazier. Total enrolment for 1905-6 was 577; graduates, 103. The next session opens Sept. 28, 1906, and closes June 19, 1907.

JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA.—This school was organized in 1825, and has a faculty of 31 professors and 82 lecturers, demonstrators, etc., a total of 113. Jefferson Hospital, together with its maternity department, are used exclusively by students of the school for clinical study. Bedside instruction is given daily to small sections of the senior class. In addition, the following hospitals are open for study of clinical cases: Pennsylvania, Philadelphia, St. Joseph's, German, Municipal and Wills Eye hospitals. The course of study covers graded work of four years of eight months each. The laboratories are large and well equipped, a new five-story laboratory building having recently been added; the lecture rooms and amphitheaters are also ample. A new fireproof hospital is now building, to cost $1,000,000, to be finished in 1906. The tuition is $180 a year, with a matriculation fee of $5, paid but once. The Dean is Dr. James W. Holland. The total number of students for 1905-6 was 617; graduates, 200. The next session opens Sept. 24, 1906, and closes June 4, 1907.

MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.—This school was organized in 1881, and has a faculty made up of 25 professors and 58 assistants, lecturers, etc., 83 in all. Opportunities for clinical study are offered exclusively to students of this school by the Medico-Chirurgical Hospital, with 125 beds, and its children's and maternity hospital, having 30 beds. In common with other schools, the following are used: Philadelphia, Pennsylvania, German, Samaritan, St. Joseph's, St. Agnes', St. Mary's, Methodist, Jewish and the Philadelphia Lying-in hospitals. With new laboratories, lecture rooms, a modern hospital and fine clinical amphitheater, this college is amply provided and the equipment is good. The work embraces four years of eight months each. Fees: $150 per annum; matriculation, $5, payable once. The Dean is Dr. Seneca Egbert. Total enrolment, 1905-6 was 467; graduates, 84. The next session opens Sept. 24, 1906, and will close June 1, 1907.

WOMAN'S MEDICAL COLLEGE OF PHILADELPHIA.—This school was organized in 1850, and has a faculty of 10 professors and 37 assistants, lecturers, etc., in all 47. Clinical facilities are offered by the Hospital of the Woman's Medical College of Pennsylvania, Woman's Hospital, West Philadelphia Hospital for Women, German, Jewish, Children's and Philadelphia hospitals, Presbyterian Hospital, Wills Hospital for Diseases of the Eye, the Howard Hospital and the Philadelphia Lying-in Charity. The lecture room and laboratory equipment is good. The curriculum covers four years of eight months each. Fees: $140 each year. The Dean is Dr. Clara Marshall. Total enrolment for 1905-6 was 136; graduates, 25. The next session begins Sept. 26, 1906, and will end May 22, 1907.

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL.—Homeopathic. This was organized in 1848 and has a faculty of 30 professors and 44 lecturers, instructors, etc., in all 74. Hahnemann College Hospital furnishes material for clinical work. The requirements for admission are those established by the Medical Council of Pennsylvania. The work covers four years of eight months each. Fees: For each year, $150; matriculation, $5. Total number of students for 1905-6 was 186; graduates, 52. The Dean is Dr. Herbert L. Northrop. The next session begins Sept. 25, 1906, and will end May 24, 1907.

MEDICAL DEPARTMENT OF THE TEMPLE COLLEGE.—This department was organized in 1901, and has a faculty of 18 professors and 32 assistants, etc., a total of 50. Instruction is given in the evening, and the course extends over five years of nine months each. The fees are $125 per year. The Dean is Dr. I. Newton Snively. The enrolment for 1905-6 was 101; graduates, 14. School opens Sept. 15, 1906, and closes June 11, 1907.

### Pittsburg.

WESTERN PENNSYLVANIA MEDICAL COLLEGE.—This is the Medical Department of the Western University of Pennsylvania, and was organized in 1886. The faculty is composed of 47 professors and 57 associates, assistants, etc., 104 in all. Clinical material for study is furnished by a college dispensary, and the Emma Kaufman Clinic, Reineman Maternity Hospital, Mercy, South Side, Passavant and St. John's hospitals. This school is a member of the Association of American Medical Colleges. The course of study embraces graded work for four years of nine months each. Special attention is given to practical bedside work. The total fees are $150 for each year. The Dean is Dr. J. C. Lange. Total enrolment for 1905-6 was 307; graduates, 46. The next session begins Oct. 1, 1906, and will close June 12, 1907.

## PHILIPPINE ISLANDS.

### Manila.

UNIVERSITY OF SAINT THOMAS MEDICAL DEPARTMENT.—The University was founded by a papal decree in 1587, and the medical school was added in 1871. The faculty consists of 19 professors. The course extends over a period of six years of nine months each. The first year is a preparatory one, devoted to the teaching of physics, chemistry and biology. The degree of licenciado is conferred at the conclusion of the fifth year, and the degree of doctorado at the end of the sixth year, during which only special work is done. This last year is optional, the degree of licenciado entitling the holder to all the rights and privileges of the medical practitioner. The degree is equivalent to the English M.B. The Rector of the university is Dr. Fr. Raymundo Vetasquez; the Secretary of the medical department is Lic. Blas C. Alcuaz. Total registration for 1904-5 was 310; given degree of *licenciado*, 26; given M.D., 11. The course began July 2, 1905, and ended March 6, 1906.

## SOUTH CAROLINA.

South Carolina, population 1,340,316, has one medical college, situated in Charleston, a city of 56,062 people. Board and room can be obtained for from $12 to $16 a month.

### Charleston.

THE MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA.—This school was founded in 1823. The faculty is made up of 10 professors and 10 assistants, etc., 20 in all. The clinical facilities are those offered by the New Roper Hospital, capacity 150 beds and having indoor and outdoor departments, where surgical, obstetrical and medical instruction is given. Applicants for matriculation must show diplomas of graduation from some literary or scientific institution of learning or certificates from some legally constituted high school or evidences of education satisfactory to the faculty. The course covers four years of six months each. The total fees for each of the first two years are $100, and $75 each for the last two. The Dean is Dr. Edward F. Parker. Total enrolment for 1905-6 was 97; graduates, 8. The next session opens Oct. 2, 1906, and closes April 15, 1907.

## TENNESSEE.

Tennessee, population 2,020,616, has eleven medical colleges. Of these the Medical Department of the University of Nashville, Vanderbilt University Medical Department, University of Tennessee Medical Department and Meharry Medical College are situated in Nashville, a city with a population of 80,865. The City Hospital, containing 100 beds, is used by all the schools in common for clinical study. Board and lodging cost from $3 to $4 a week.

Knoxville, population 34,344, contains two colleges, Tennessee Medical College and Knoxville Medical College. The cost of room and board in that city is from $2.50 to $4 a week.

Chattanooga Medical College and Chattanooga National Medical College are situated in Chattanooga, a city of 30,469 people. Board and lodging cost there from $2 a week upward.

Memphis Hospital Medical College and the College of Physicians and Surgeons are located in Memphis, population 113,669. Good board can be obtained for from $3 to $4 a week.

The University of West Tennessee is in Jackson, whose population is 15,852.

The other school, the Sewanee Medical College, is located at Sewanee, a mountain town of 600 people.

### Nashville.

UNIVERSITY OF NASHVILLE MEDICAL DEPARTMENT.—This school, established in 1850, has a faculty of 11 professors and 12 lecturers, assistants, etc., in all 23. This school is a member of the Southern Medical College Association. The course of study covers four years of twenty-six weeks each. The tuition for each of the four years is $75. The Dean is Dr. William G. Ewing. Total enrolment for 1905-6 was 298; graduates, 42. The next session begins Oct. 1, 1906, and ends March 29, 1907.

VANDERBILT UNIVERSITY MEDICAL DEPARTMENT.—This school was founded in 1874, and in 1895, when the present medical building was completed, the course was extended, the standard raised. The present faculty of 35 consists of 20 professors and 15 lecturers, etc. The school is a member of the Southern Medical College Association. The course covers four years of seven months each. The minimum entrance requirement is a high school diploma or its equivalent. The total fees for the first three years are $105 each and $130 for the fourth year. The Dean is Dr. William L. Dudley. Total enrolment for 1905-6 was 197; graduates, 36. The next session begins on or about Oct. 1, 1906, and ends May 1, 1907.

UNIVERSITY OF TENNESSEE MEDICAL DEPARTMENT.—This was organized in 1876 as the Nashville Medical College; its present relations were assumed in 1879. The faculty is composed of 16 professors and 10 lecturers, assistants, etc., 26 in all. The school is a member of the Southern Medical College Association. The course of study includes work for four years of seven months each. The total fees for each of the first three years are $75 and $100 for the fourth year. The Dean is Dr. Paul F. Eve, 614 Broad St. Total enrolment for 1905-6 was 182 students; graduates, 25. The next session begins Oct. 1, 1906, and ends May 1, 1907.

MEHARRY MEDICAL COLLEGE.—Colored. This school was organized in 1876 as the Medical Department of Central Tennessee College, now Walden University, "for the purpose of furnishing to the colored people of the South an opportunity of obtaining a medical education." The faculty is made up of 12 professors and 13 instructors, demonstrators, etc., 25 in all. The work embraces a four-year graded course, seven months to the year. The total fees for the first three years are $50 each, and $60 for the fourth year. The Dean is Dr. G. W. Hubbard. Total registration for 1905-6 was 321; graduates, 68. The next session begins Sept. 5, 1906, and ends April 5, 1907.

### Knoxville.

TENNESSEE MEDICAL COLLEGE.—This school was organized in 1889, and has a faculty of 14 professors and 12 assistants, 26 in all. This school is coeducational. The Tennessee Medical College is now the medical department of the Lincoln Memorial University. A new college building with large and well-filled laboratories has been completed. The Lincoln Memorial Hospital, owned and controlled by the faculty, adjoins the college building and furnishes material for clinical study. This school is a member of the Southern Medical College Association. The curriculum includes graded work for four years of seven months each. Fees: First and second years, $50; third and fourth years, $60; matriculation fee, $5; graduation fee, $25. The Registrar is Dr. E. R. Zemp. Total number of students for 1905-6 was 80; graduates, 19. Next session begins Nov. 1, 1906, and closes about June 1, 1907.

KNOXVILLE MEDICAL COLLEGE.—Colored. This school was established in 1900, following the discontinuance of the Medical Department of Knoxville College, organized in 1895. The teaching force comprises 12. The course covers four years of seven months each. Fees, $40 per year. The Secretary is Dr. H. M. Green. Total number of students for 1905-6 was 45; graduates, 4. The next session opens Nov. 10, 1906, and closes June 1, 1907.

### Chattanooga.

CHATTANOOGA MEDICAL COLLEGE.—This is the Medical Department of Grant University and was organized in 1889. The faculty consists of 10 professors and 16 instructors, demonstrators, etc., total 26. Adequate clinical facilities are afforded by the wards of Baroness Erlanger Hospital, a county asylum, an outdoor clinic maintained in the college building, and all material furnished by the city physician's office which the faculty desires to utilize. The scholastic requirements are those of the Southern Medical College Association, of which this school was a charter member and to which it belongs. These requirements involve a strictly graded course covering four years of seven months each. The total fees approximate $55 each session. The trustees materially added to the general facilities of the institution by the erection of another fine four-story building of brick and stone for the medical department three years ago, wherein much modern and elaborate equipment has been installed. The Dean is Dr. J. R. Rathmell. The total enrolment for the session of 1905-6 was 267; graduates, 33. The next session opens about Oct. 1, 1906, and ends April 30, 1907.

### Memphis.

MEMPHIS HOSPITAL MEDICAL COLLEGE.—This school, organized in 1878, has a faculty of 10 professors and 18 assistants, beside quiz masters. Excellent clinical facilities are furnished by the City Hospital, Presbyterian Hospital, St. Joseph's Hospital and the East End Dispensary, the latter being located in the college building. The course includes graded work for four years of seven months each. The total fees for the first three years are $75; for the fourth, $100. The Dean is Dr. W. B. Rogers. Total registration for 1905-6 was 492; graduates, 82. The twenty-seventh annual session will begin Oct. 1, 1906, and close April 30, 1907.

COLLEGE OF PHYSICIANS AND SURGEONS.—This college was organized in 1906 and has a faculty of 20. The new building will be ready for the beginning of the first course of lectures, which will start October 1. The Memphis City Hospital is immediately opposite the college building. Access will also be had to St. Joseph's, Presbyterian and Lucy Brinkley hospitals. Laboratories will be well equipped. The course will cover four years of seven months each. The Dean is Dr. Heber Jones, Tennessee Trust Building.

### Jackson.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF WEST TENNESSEE.—Colored. This school, organized in 1900, has a faculty of 10. The course is four years of seven months each. The fees are $40 per year; graduation, $10 extra. Registration for 1905-6 was 40; graduates, 4. The next session opens Sept. 24, 1906, and closes April 24, 1907.

### Sewanee.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE SOUTH.—This school was organized in 1892 and has a faculty of 21 members. It is a member of the Southern Medical College Association. The required curriculum is four courses of seven months each, with an interval of eleven months between matriculations. The requirements for entrance on the study are a recommendation from two well-known physicians and a certificate of a high school training. The Dean is Dr. J. S. Cain. Total enrolment for 1905-6 was 119; graduates, 28. The fourteenth course opened April 2, 1906, and closes Oct. 30, 1906.

## TEXAS.

Texas, population 3,048,710, has seven medical colleges. The University of Texas Department of Medicine is located at Galveston, a city of 37,789 inhabitants. Good board and room can be procured for from $15 to $20 a month.

The Medical Department of Fort Worth University is at Fort Worth, population 27,192. The cost of board and room in that city is from $12 to $15 a month.

The Baylor University College of Medicine, the Medical Department of Southwestern University, the College of Physicians and Surgeons and the Physio-Medical College of Texas are situated in Dallas, population 44,159.

The Gate City Medical College is situated in Texarkana, having a population of 5,256.

### Dallas.

BAYLOR UNIVERSITY COLLEGE OF MEDICINE.—This is a new name for the University of Dallas Medical Department, which was organized in 1901. In June, 1903, it became the Medical Department of Baylor University at Waco. In 1905 it merged with the Dallas Medical College. The faculty numbers 20 professors and 16 assistants, total 36. Parland Hospital, with 90 beds; St. Paul's Sanitarium, Baptist Memorial Hospital and a college dispensary and hospital are utilized for clinical study. The course covers four years of seven months each. The school is a member of the Association of Southern Medical Colleges. The fees are $75 for each of the four years, with a matriculation fee of $5, paid once, and a graduation fee of $25. The Dean is Dr. E. H. Cary. Total registration for 1905-6 was 70; graduates, 8. The next session opens Oct. 1, 1906, and closes May 1, 1907.

SOUTHWESTERN UNIVERSITY MEDICAL COLLEGE.—This is the Medical Department of Southwestern University and was organized in June, 1903. It has a faculty of 17 professors and 14 instructors, total 31. The course of instruction is graded and covers four years in medicine and two in pharmacy. Requirements for admission are equivalent to those prescribed by the Association of American Medical Colleges. The fees are: Matriculation, $5, paid once; annual tuition, $75; graduation, $25. The hospitals represented by the faculty and open for clinical teaching are St. Paul's Sanitarium, City Hospital, Texas Baptist Memorial Hospital, Children's Home, Mission Home, Woman's Home, St. Joseph Orphanage, St. Matthew's Home for Children, Dr. H. K. Leake's Private Infirmary and Outdoor Clinic of the Settlement Home. The Dean is Dr. John O. McReynolds. Total registration, 1905-6, was 85; graduates, 7. The fourth session opens Oct. 1, 1906, and closes May 3, 1907.

COLLEGE OF PHYSICIANS AND SURGEONS.—This school was founded in 1904 as the Bell Medical College, and in 1905 the name was changed to the above. It has a total teaching staff of 15. The course of instruction extends over four years of six months each. The requirements for admission are the same as those prescribed by the Association of Southern Medical Colleges. Clinical instruction is given in the City Hospital, St. Paul Sanitarium and the college dispensary. The fees for the first three years are $80, and $105 for the fourth year. The Dean is Dr. Arthur C. Bell. Total registration for 1905-6 was 95; graduates, 18. The next session begins Oct. 2, 1906, and closes April 3, 1907.

PHYSIO-MEDICAL COLLEGE OF TEXAS.—This college was organized in 1902. It has a faculty of 22 professors and 4 assistants, total 26. The course is four years of thirty weeks each. The fees are, first year, $70; fourth year, $85; other years, $65. Enrolment, 1905-6, was 47; graduates, 11. The secretary is Dr. R. L. Spann. The next session opens Oct. 15, 1906, and closes May 15, 1907.

### Galveston.

UNIVERSITY OF TEXAS MEDICAL DEPARTMENT.—This department of the State University was organized in 1891 and has a faculty of 23. The John Sealy Hospital, also having an outdoor department, and St. Mary's Infirmary supply good material for clinical study. Requirements for admission: (*a*) Admission Without Examination.—Graduates of approved schools and colleges, graduates of affiliated high schools, holders of first-grade state teachers' certificates and students of approved colleges and universities are admitted without entrance examination. (*b*) Admission on Examination.—Examinations on the following prescribed subjects are required to begin the study of medicine: English, 3½ units; history, 1½ units; algebra, 1½ units, and 1½ units in either geometry, Latin or physics. (A unit is a high-school course pursued for one session.) For full admission credit must be secured in five additional units from elective subjects in languages and sciences if Latin be included, or in six units if Latin be not included. Students who do not secure credit for all the electives at the time of entrance may do so during the summer vacations, but they must do so before they can become candidates for the degree. The curriculum embraces graded work for four years of eight months each. All laboratories are completely equipped. Fees: First year, $50; second and third, each $20, and $5 for the fourth. The Dean is Dr. William S. Carter. Total registration for 1905-6 was 189; graduates, 31. The next session begins Oct. 1, 1906, and ends May 31, 1907.

### Fort Worth.

MEDICAL DEPARTMENT OF FORT WORTH UNIVERSITY.—This school was organized in 1894 and has a faculty of 15 professors and 22 lecturers, assistants, etc., in all 37. Clinical facilities are supplied by St. Joseph's Hospital, with 200 beds; the Benevolent Home, containing 75 beds; the Gella Collins' Rescue Home, having 50 beds, and a college dispensary. The school is a member of the Southern Medical College Association. The course covers four years of seven months each. The total fees for each of the first three years are $75 and $100 for the fourth year. The Dean is Dr. Frank Gray. The total enrolment for 1905-6 was 192; graduates, 23. The next session opens Oct. 3, 1906, and closes May 3, 1907.

### Texarkana.

GATE CITY MEDICAL COLLEGE.—The length of each course is seven months. The faculty numbers 20 professors and assistants. Registration, 1905-6, was 156; graduates, 40. The Dean is Dr. J. W. Decker. The next session begins Oct. 1, 1906, and ends May 4, 1907.

## UTAH.

Utah, population 276,749, has one medical college, situated at Salt Lake City, which has 57,138 people. This college is the Medical Department of the University of Utah, which gives only the first two years of the medical course.

### Salt Lake City.

UNIVERSITY OF UTAH DEPARTMENT OF MEDICINE.—This department was organized in 1906 and offers the first two years of the medical course, each year extending over thirty-six weeks. Two courses are offered, a two-year course of the standard medical course leading to a special certificate and a four-year course consisting of two years in the College of Arts, the two years in medicine being counted as the junior and senior years, which gives the A.B. degree and a special certificate. The medical faculty consists of 7 professors and 16 lecturers and assistants, a total of 23. Fees: V. Chamberlin, Ph.D. The enrolment for 1905-6, the first session, was 30. The second session begins Sept. 17, 1906, and ends June 6, 1907.

## VERMONT.

Vermont, population 343,641, has one medical school, located at Burlington, a town of 19,885 people. Board and room cost from $3.50 to $5 a week.

### Burlington.

UNIVERSITY OF VERMONT COLLEGE OF MEDICINE.—This school was organized in 1822, but suspended from 1836 until 1854, when it was reorganized. The faculty consists of 21 professors and 21 assistants, instructors, etc., in all 42. The Mary Fletcher Hospital and a free dispensary furnish material for clinical instruction. Applicants for admission must be graduates of a four-year high school course or take an examination to show equivalent educational qualifications. The laboratory and lecture-room space and equipment are good. A new and commodious college building has just been completed and is now in use. The course of study embraces graded work for four years of seven months each. The total fees for each of the first three years are $115 and $140 for the fourth year. The Dean is Dr. H. C. Tinkham; Secretary, H. L. White, A.M. Total registration of students for 1905-6 was 169; graduates, 47. The fifty-fourth session begins Dec. 1, 1906, and ends June 28, 1907.

## VIRGINIA.

Virginia, population 1,854,184, has three medical colleges, situated in Charlottesville, population 6,449, and Richmond, population 86,148. The clinical facilities in Richmond are good. Board and room can be obtained for $18 a month and upward in Charlottesville, and from $12 to $20 a month in Richmond.

### Charlottesville.

UNIVERSITY OF VIRGINIA DEPARTMENT OF MEDICINE.—This school was organized in 1827 and has a faculty of 24. A free dispensary and the new four-story hospital furnish clinical facilities. The requirements for admission are those of the Association of American Medical Colleges. The course is four years of nine months each. Fees: First year, $110; second, $100; third, $80, and $60 for the fourth year. The Dean is Dr. R. H. Whitehead. Total enrolment for 1905-6 was 122; graduates, 21. The eighty-second session opens Sept. 13, 1906, and closes June 11, 1907.

### Richmond.

MEDICAL COLLEGE OF VIRGINIA.—This school was organized in 1838 as the Medical Department of Hampden Sidney College, Virginia. In 1854 it was granted a charter by the legislature of Virginia as an independent institution under its present name. In 1860 the college and its appurtenances were deeded to the State of Virginia in consideration of an appropriation on the part of the state of a sufficient sum to build a hospital, since which time it has continued as a state institution. During the war between the states it was the only medical college in the Confederacy which did not close its doors. It held two sessions a year during this period, and a large proportion of the surgeons of the Confederate Army were graduates of this school. Clinical material was formerly furnished by the Old Dominion Hospital, but more recently by the Memorial Hospital, opened in July, 1903, and the City Free Dispensary, both of which are under the exclusive control of the college. The State Penitentiary Hospital and other public charities and asylums of the city afford ample opportunity for additional clinical work. This school is a member of the Southern Medical College Association. The buildings are large and numerous and contain well-equipped laboratories and amphitheaters. The course embraces four years of nearly eight months each. The fees are $100 for each year, with an additional graduation fee of $30. The Dean is Dr. Christopher Tompkins. Total registration for 1905-6 was 242; graduates, 45. The next session begins Sept. 25, 1906, and will end May 14, 1907.

UNIVERSITY COLLEGE OF MEDICINE.—This school was organized in 1893 and has a faculty of 19 professors, 41 lecturers, assistants, etc., a total of 60. Good clinical facilities are furnished by Virginia Hospital, with a maternity department and annex, which was built especially for the purpose of affording bedside instruction and is owned and operated by the college; Richmond Eye, Ear and Throat Infirmary, containing 34 beds; the City Hospital, City Jail, State Penitentiary and a college dispensary. Matriculation is in accord with the rules of the Association of American Medical Colleges and of the Southern Medical College Association, to both of which this college belongs. The laboratory and lecture-room space and equipment are ample, and some of the instructors devote their entire time to the laboratories. The school lays especial importance on the careful instruction and guidance of each student. The curriculum covers four years of thirty-four weeks each. The total fees are $100 for each year. The President is Dr. Stuart McGuire; the Dean is Dr. Landon B. Edwards. Total enrolment for 1905-6 was 205; graduates, 20. The next session begins Sept. 25, 1906, and ends May 23, 1907.

## WEST VIRGINIA.

West Virginia, population 958,800, has one medical college, College of Medicine of the West Virginia University, located at Morgantown, a city of 1,900 inhabitants.

### Morgantown.

WEST VIRGINIA UNIVERSITY COLLEGE OF MEDICINE.—This school was organized in 1902 and gives only the first two years of the medical course. Each college term extends over nine months. The degree of M.D. is granted students after they finish the third and fourth years in Baltimore at the College of Physicians and Surgeons. The faculty consists of 5 professors and 4 assistants, 9 in all. The school is a member of the Association of American Medical Colleges. Tuition free to students residing in the state; for others, $37.50 per year. Dr. J. N. Simpson is the Dean and A. J. Collett the Secretary. Total registration in 1905-6 was 35. Next session begins Sept. 14, 1906, and closes June 14, 1907.

## WISCONSIN.

Wisconsin, population 2,069,042, has two medical colleges, the Milwaukee Medical College and Wisconsin College of Physicians and Surgeons. They are both situated in Milwaukee, a city of 312,736 people. Clinical facilities are furnished them in common by the County Hospital, with 300 beds, and the Milwaukee Hospital for the Insane. Board and lodging can be had for from $3 to $5 a week.

### Milwaukee.

MILWAUKEE MEDICAL COLLEGE.—This school was organized in 1893 and has a faculty of 36 professors and 27 lecturers, instructors, etc., a total of 63. Good clinical material is furnished by Trinity and the County Hospitals, Milwaukee Hospital for the Insane and a college dispensary. This school is a member of the Association of American Medical Colleges. Ample laboratory and amphitheater facilities are afforded. The course covers four years of eight months each. The total fees are $125 each for the first three years and $135 for the fourth year. The President is Dr. William H. Earles. Total number of students for 1905-6 was 139; graduates, 15. The thirteenth session begins Sept. 18, 1906, and will close about May 14, 1907.

WISCONSIN COLLEGE OF PHYSICIANS AND SURGEONS.—This college was organized in 1893 and has a faculty composed of 28 professors and 29 associates, assistants, etc., a total of 57. St. Joseph's Hospital, containing 150 beds; the college dispensary, the Milwaukee County Hospital and the Hospital for the Insane supply facilities for clinical study. The school is a member of the Association of American Medical Colleges. The laboratories and lecture rooms are well equipped. The curriculum includes four years of eight months each. Fees: Matriculation, paid once, $5; general ticket, $100; for the use of the microscope a fee of $2 is charged for each course.

The Secretary is Dr. W. H. Washburn. Total enrolment for 1905-6 was 86; graduates, 15. The next session begins Sept. 18, 1906, and ends May 16, 1907.

## STANDARDS OF MEDICAL EDUCATION ADOPTED BY THE AMERICAN MEDICAL ASSOCIATION, JULY, 1905.

### THE IDEAL STANDARD.

The ideal standard to be aimed at from the present viewpoint should consist of: (a) Preliminary education sufficient to enable the candidate to enter our recognized universities, the passing upon such qualifications by the state authorities. (b) A five-year medical course, the first year of which should be devoted to physics, chemistry and biology, and such arrangements should be made that this year could be taken either in a school of liberal arts or in the medical school. Of the four years in pure medical work, the first two should be spent in laboratories of anatomy, physiology, pathology, pharmacology, etc., and the last two in close contact with patients in dispensaries and hospitals in the study of medicine, surgery, obstetrics and the specialties. (c) A sixth year as an interne in a hospital or dispensary should then complete the medical course.

Under such a scheme the majority of men would begin the study of medicine between 18 and 19 years of age, and would graduate from the hospital interneship at from 24 to 25. A college education is recognized as a desirable preparation for a limited number of men, but it is thought that it is not and never will be desirable to make such college education a requirement to the study of medicine, as it would make the age of graduation from 27 to 28 years, which is regarded as too old a period at which the young medical man should begin his life's work. It is obvious that this very desirable scheme of requirements can not be at once demanded or recommended.

### STANDARD NOW RECOMMENDED.

The standard of requirements now recommended prerequisite to the practice of medicine consists of five cardinal points, as follows:

1. Preliminary requirements to be a high school education or its equivalent, such as would admit the student to one of our recognized universities.

2. Preliminary requirements to be passed on by a state official, such as the superintendent of public instruction, and not by an official of the medical college.

3. A medical training in a medical college, having four years of not less than thirty weeks each year, of thirty hours per week of actual work.

4. Graduation from an approved medical college required to entitle the candidate to an examination before a state examining board.

5. The passing of a satisfactory examination before a state examining board.

### HISTORY.

1. The above standards are the result of three conferences held by the Council on Medical Education of the American Medical Association at Philadelphia, December, 1904; at Chicago, April, 1905, and at Portland, July, 1905.

2. The Chicago meeting was a conference with representatives of (a) state examining and licensing boards, (b) government medical services, (c) associations of medical colleges and of (d) colleges of liberal arts.

3. Standards were reported to the American Medical Association, referred to a special reference committee and later adopted by the Association at the fifty-sixth annual session, held at Portland, Ore., July 10 to 14, 1905.

## THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

The requirements for admission and graduation to be maintained by colleges holding membership in this Association and the minimum course of study prescribed are as follows:

### ARTICLE III.

SECTION 1.—Every college holding membership in this Association shall demand of each student, under the condition hereinafter stated, as a minimum requirement for admission to the medical course:

(*a*) A bachelor's degree from an approved college or university.

(*b*) A diploma from an accredited high school, normal school or academy requiring for admission evidence of the completion of an eight year course in primary and intermediate grades, and for graduation not less than four years of study embracing not less than two years (4 points) of foreign language, of which one must be Latin, two years (4 points) of mathematics, two years (4 points) of English, one year (2 points) of history, two years (4 points) of laboratory science and six years (12 points) of further credit in language, literature, history or science.

(*c*) An examination in the following branches:

A. Required (18 points): Mathematics (4 points), English (4 points), History (2 points), Language (2 must be Latin), 4 points, Science (taken from physics, chemistry, botany, zoölogy), 4 points.

B. Optional (to 12 points): English, 2 points; History, 6 points; Language, 6 points; Manual Training, 2 points; Mechanical Drawing, 1 point; Natural Science (botany, biology, zoölogy), 2 points; Physical Science (chemistry, physics), 2 points; Trigonometry, 1 point; Astronomy (1), Civics (1), Geology (1), physical Geography (1), Physiology and Hygiene (1), Political Economy (1).

(One point in any subject in a high school or academic course demands not less than five periods per week of forty-five minutes each for eighteen weeks.)

(*d*) Certificates from reputable instructors recognized by any state board of medical examiners duly authorized by law or by the superintendents of public instruction in states not having a board of examiners, may be accepted in lieu of any part of this examination.

SEC. 2.—This examination must be conducted by or under the authority of the board of examiners or of the superintendent of public instruction of the city or state in which the college is located. In no case shall it be conducted by any person connected with the faculty, medical or otherwise, of the institution to which the student is seeking admission.

SEC. 3.—A student may be allowed to enter on his medical work conditioned in not more than six points, and these conditions must be removed by satisfactory examination before he is allowed to enter on the second year of his medical course.

SEC. 4.—Colleges in membership in this Association may honor the official credentials presented by students from other colleges having the standard requirements maintained by members of this Association, excepting for the fourth year of their course, but no member of this Association shall admit a student to advanced standing without first communicating with the college from which such student desires to withdraw, and receiving from the dean of such college a direct written communication certifying to the applicant's professional and moral qualifications and to the exact work he has done in said college.

SEC. 5.—Candidates for the degree of doctor of medicine shall have attended four courses of study in four calendar years, each annual course to have been of not less than thirty teaching weeks' duration, and at least ten months shall intervene between the beginning of any course and the beginning of the preceding course.

SEC. 6.—Credit may be given to the holder of a bachelor's degree from an approved college or university for any work in the medical branches which he has successfully completed in his college course only so far as it is the full equivalent of corresponding work in the medical curriculum. The holder of such bachelor's degree may also be given time credits of not exceeding one year, provided that such student has had at least 40 hours in physics, 144 hours in chemistry, 24 hours in osteology, 292 hours in human or comparative anatomy, 124 hours in histology, 85 hours in embryology, 145 hours in physiology and 46 hours in materia medica; provided that the applicant for such time credits satisfies the professors of the chairs mentioned in the medical school as to his proficiency in these fisrt-year medical studies, and satisfies the examiner, as provided for in Section 2, Article III, that his studies for which the degree was conferred include the above requirements. Such student may be allowed to complete a course for the medical degree in not less than 31 months, provided he completes the remainder of the medical curriculum in that time.

SEC. 7.—A college which gives less than a four years' course of study, but does not graduate students, and is possessed of other required qualifications, may be admitted to membership.

SEC. 8.—Each student shall be obliged to attend 80 per cent. of the exercises in every annual course of study for which he seeks credit. No student shall be given credit on examination unless he attains a grade of at least 70 per cent. or its equivalent in any other marking system. And no student shall be graduated unless he shall have attained a passing grade in each and all subjects of the required curriculum.

### ARTICLE V.

SECTION 1.—The entire course of four years shall consist of at least 4,000 hours, divided into the subjects as shown in the following table, and no college shall be recognized that falls below this standard over 20 per cent. in any one branch or over 10 per cent. in the total. Laboratory or clinic hours may be substituted for didactic hours.

CURRICULUM.

| | No. of Hours of Lectures. | Hours of Laboratory. | Hours of Clinics. | Total. |
|---|---|---|---|---|
| Histology | 30 | 60 | .. | 90 |
| Embryology | 30 | 60 | .. | 90 |
| Osteology | 30 | .. | .. | 30 |
| Anatomy | 190 | 230 | .. | 420 |
| Physiology | 180 | 120 | .. | 300 |
| Chemistry and Toxicology | 100 | 200 | .. | 300 |
| Materia Medica | 40 | 20 | .. | 60 |
| Pharmacology | 40 | 20 | .. | 60 |
| Therapeutics | 90 | .. | .. | 90 |
| Bacteriology | 40 | 100 | .. | 140 |
| Pathology | 100 | 140 | .. | 240 |
| Medical Zoology, Postmortem Work and Clinical Microscopy | 30 | 60 | .. | 90 |
| Physical Diagnosis | 20 | .. | 80 | 100 |
| Pactice of Medicine | 180 | .. | 360 | 540 |
| Surgery | 180 | .. | 360 | 540 |
| Obstetrics | 100 | .. | 60 | 160 |
| Gynecology | 50 | .. | 110 | 160 |
| Pediatrics | 40 | .. | 60 | 100 |
| Eye and Ear | 30 | .. | 30 | 60 |

*Continued on page 632.*

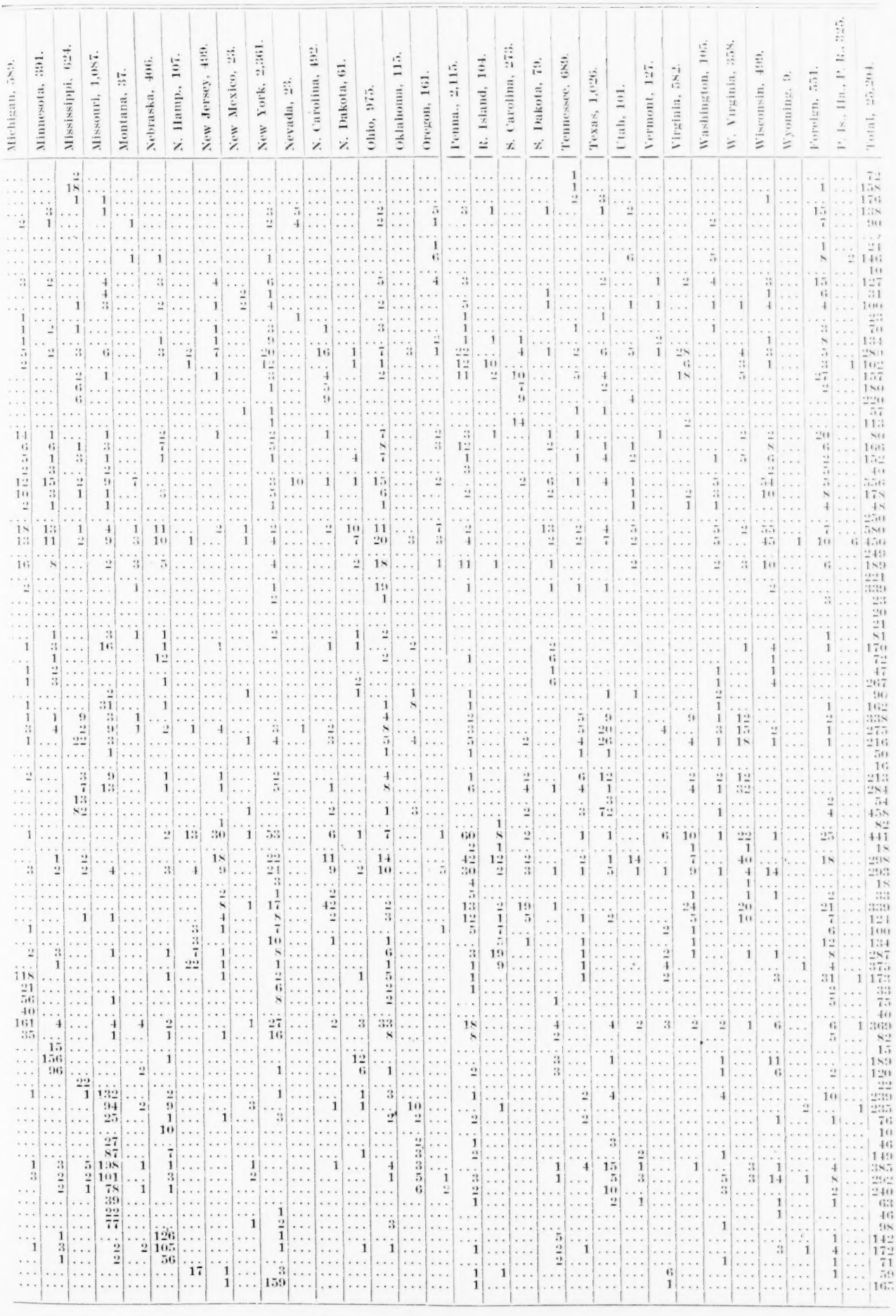
| Name and Location of College. | Population of city in which college is located. | Number of students registered session of 1905-6. | | Graduates 1906. | | Total number of teachers. | Weeks in college year. | Total graduates all colleges in state 1906. | Total students in all colleges in state 1905-6 |
|---|---|---|---|---|---|---|---|---|---|
| | | Men. | Women. | Men. | Women. | | | | |
| ALABAMA | | | | | | | | 37 | 230 |
| Birmingham Med. Coll., Birmingham.—R | 42,087 | 72 | ... | 8 | .. | 28 | 24 | ... | ... |
| Medical College of Alabama, Mobile.—R | 40,686 | 158 | ... | 29 | .. | 17 | 24 | ... | ... |
| ARKANSAS | | | | | | | | 26 | 176 |
| Arkansas University, Little Rock.—R | 42,036 | 175 | 1 | 26 | .. | 38 | 28 | ... | ... |
| CALIFORNIA | | | | | | | | 128 | 563 |
| Cooper Med. Coll., San Francisco.—R | 355,919 | 117 | 19 | 23 | [illegible] | 61 | 35 | ... | ... |
| University of California, San Francisco.—R | 355,919 | 81 | 9 | 17 | [illegible] | 62 | 36 | ... | ... |
| California Medical College, San Francisco.—E† | 355,919 | † | ... | 10 | .. | 26 | 30 | ... | ... |
| Hahnemann Medical College, San Francisco.—H | 355,919 | 23 | 1 | 4 | .. | 32 | 33 | ... | ... |
| College of P. and S., San Francisco.—R | 355,919 | 131 | 14 | 25 | [illegible] | 43 | 32 | ... | ... |
| Oakland Coll. of Med. and Surg., Oakland.—R | 70,386 | 8 | 2 | 4 | .. | 14 | 32 | ... | ... |
| University of Southern California, Los Angeles.—R | 116,420 | 117 | 10 | 27 | 1 | 55 | 32 | ... | ... |
| College of P. and S., Los Angeles.—R | 116,420 | 28 | 3 | 3 | .. | 36 | 32 | ... | ... |
| COLORADO | | | | | | | | 47 | 193 |
| Denver and Gross Coll. of Med., Denver.—R | 144,588 | 91 | 9 | 24 | [illegible] | 76 | 33 | ... | ... |
| Denver Homeo. Coll., Denver.—H | 144,588 | 13 | 10 | 3 | [illegible] | 32 | 32 | ... | ... |
| Colorado School of Medicine, Boulder.—R | 6,150 | 62 | 8 | 14 | [illegible] | 27 | 36 | ... | ... |
| CONNECTICUT | | | | | | | | 25 | 134 |
| Yale University Med. Dept., New Haven.—R | 114,600 | 134 | ... | 25 | .. | 64 | 36 | ... | ... |
| DISTRICT OF COLUMBIA | | | | | | | | 100 | 539 |
| George Washington University, Washington.—R | 293,217 | 280 | ... | 51 | .. | 79 | 33 | ... | ... |
| Georgetown University, Washington.—R | 293,217 | 102 | ... | 20 | .. | 73 | 32 | ... | ... |
| Howard University Medical Dept., Washington.—R | 293,217 | 145 | 12 | 28 | 1 | 33 | 32 | ... | ... |
| GEORGIA | | | | | | | | 118 | 569 |
| Atlanta College of P. and S., Atlanta.—R | 96,550 | 180 | ... | 52 | .. | 33 | 26 | ... | ... |
| Atlanta School of Medicine, Atlanta.—R | 96,550 | 220 | ... | 21 | .. | 38 | 28 | ... | ... |
| Georgia Coll. of Ecl. Med. and Surg., Atlanta.—E | 96,550 | 56 | 1 | 15 | .. | 14 | 33 | ... | ... |
| University of Georgia, Augusta.—R | 41,283 | 113 | ... | 30 | .. | 25 | 28 | ... | ... |
| ILLINOIS | | | | | | | | 743 | 3,199 |
| American Med. Missionary Coll., Chicago.—R | 1,873,880 | 53 | 27 | 16 | [illegible] | 28 | 36 | ... | ... |
| Bennett Coll. of Ecl. Med. and Surg., Chicago.—E | 1,873,880 | 145 | 21 | 48 | 4 | 52 | 29 | ... | ... |
| Coll. of Med. and Surg., Chicago.—Ph.M | 1,873,880 | 30 | 10 | 4 | 1 | 43 | 30 | ... | ... |
| College of P. and S., Chicago.—R | 1,873,880 | 513 | 43 | 196 | 14 | 198 | 33 | ... | ... |
| Hahnemann Med. Coll., Chicago.—H | 1,873,880 | 178 | ... | 47 | 11 | 80 | 31 | ... | ... |
| Hering Medical College, Chicago.—H | 1,873,880 | 48 | ... | 12 | [illegible] | 55 | 32 | ... | ... |
| Illinois Med. Coll., Chicago.—R | 1,873,880 | 187 | 5 | 48 | .. | 50 | 28 | ... | ... |
| Jenner Med. Coll., Chicago.—* | 1,873,880 | 230 | 20 | 37 | 1 | 53 | 28 | ... | ... |
| Northwestern University, Chicago.—R | 1,873,880 | 580 | ... | 125 | .. | 116 | 34 | ... | ... |
| Rush Medical College, Chicago.—R | 1,873,880 | 428 | 22 | 79 | 4 | 254 | 34 | ... | ... |
| National Medical University, Chicago | 1,873,880 | 234 | 15 | 26 | 3 | 75 | 36 | ... | ... |
| American Coll. of Med. and Surg., Chicago.—R | 1,873,880 | 178 | 11 | 21 | [illegible] | 65 | 30 | ... | ... |
| Dearborn Med. Coll., Chicago.—R* | 1,873,880 | 208 | 13 | 34 | 1 | 42 | 39 | ... | ... |
| INDIANA | | | | | | | | 134 | 403 |
| Indiana Medical College, Indianapolis.—R | 191,033 | 328 | 11 | 117 | [illegible] | 97 | 32 | ... | ... |
| Physio-Med. Coll. of Indiana, Indianapolis.—Ph.M | 191,033 | 20 | 3 | 4 | [illegible] | 34 | 28 | ... | ... |
| Eclectic Med. Coll. of Indiana, Indianapolis.—E | 191,033 | 20 | ... | 6 | .. | 24 | 28 | ... | ... |
| Indiana Univ. School of Med., Bloomington.—R | 5,000 | 21 | ... | ... | .. | 16 | 35 | ... | ... |
| IOWA | | | | | | | | 133 | 637 |
| Drake Univ. Coll. of Med., Des Moines.—R | 65,754 | 74 | 7 | 10 | .. | 30 | 35 | ... | ... |
| Keokuk Med. Coll. of P. and S., Keokuk.—R | 14,803 | 163 | 7 | 48 | .. | 28 | 30 | ... | ... |
| Sioux City Coll. of Med., Sioux City.—R | 31,701 | 72 | ... | 12 | [illegible] | 26 | 36 | ... | ... |
| State Univ. of Iowa, Homeo. Dept., Iowa City.—H | 7,987 | 46 | 1 | 8 | .. | 24 | 36 | ... | ... |
| State Univ. of Iowa, Med. Dept., Iowa City.—R | 7,987 | 258 | 9 | 49 | [illegible] | 28 | 36 | ... | ... |
| KANSAS | | | | | | | | 75 | 252 |
| Kansas Medical College, Topeka.—R | 35,388 | 86 | 4 | 17 | 1 | 40 | 30 | ... | ... |
| School of Med., Univ. of Kansas, Kansas City.—R | 55,348 | 157 | 5 | 35 | 2 | 109 | 34 | ... | ... |
| KENTUCKY | | | | | | | | 238 | 1,592 |
| Hospital College of Medicine, Louisville.—R | 215,945 | 338 | ... | 94 | .. | 58 | 28 | ... | ... |
| Kentucky School of Med., Louisville.—R | 215,945 | 270 | 5 | 47 | 1 | 47 | 28 | ... | ... |
| Louisville Medical College, Louisville.—R | 215,945 | 216 | ... | 54 | .. | 30 | 26 | ... | ... |
| Louisville National Med. Coll., Louisville.—R | 215,945 | 49 | 1 | 7 | .. | 32 | 30 | ... | ... |
| Southwestern Homeo. Med. Coll., Louisville.—H | 215,945 | 16 | ... | 6 | .. | 27 | 28 | ... | ... |
| University of Louisville, Louisville.—R | 215,945 | 213 | ... | 47 | .. | 36 | 28 | ... | ... |
| Kentucky University, Louisville.—R | 215,945 | 284 | ... | 82 | .. | 42 | 28 | ... | ... |
| LOUISIANA | | | | | | | | 110 | 512 |
| Flint Medical College, New Orleans.—R | 300,625 | 53 | 1 | 8 | .. | 16 | 26 | ... | ... |
| Tulane University, New Orleans.—R | 300,625 | 458 | ... | 102 | .. | 59 | 26 | ... | ... |
| MAINE | | | | | | | | 17 | 82 |
| Medical School of Maine, Portland.—R | 52,656 | 82 | ... | 17 | .. | 34 | 32 | ... | ... |
| MARYLAND | | | | | | | | 372 | 1,564 |
| Baltimore Medical College, Baltimore.—R | 513,313 | 441 | ... | 97 | .. | 58 | 32 | ... | ... |
| Baltimore Univ. School of Med., Baltimore.—R | 513,313 | 18 | ... | 7 | .. | 24 | 34 | ... | ... |
| College of P. and S., Baltimore.—R | 513,313 | 298 | ... | 65 | .. | 50 | 32 | ... | ... |
| Johns Hopkins University, Baltimore.—R | 513,313 | 268 | 25 | 76 | [illegible] | 82 | 33 | ... | ... |
| Southern Homeo. Med. Coll., Baltimore.—H | 513,313 | 13 | 5 | 3 | [illegible] | 24 | 28 | ... | ... |
| University of Maryland, Baltimore.—R | 513,313 | 339 | ... | 83 | [illegible] | 60 | 32 | ... | ... |
| Woman's Med. College, Baltimore.—R | 513,313 | ... | 33 | ... | [illegible] | 32 | 32 | ... | ... |
| Maryland Med. College, Baltimore.—R | 513,313 | 124 | ... | 29 | .. | 44 | 30 | ... | ... |
| MASSACHUSETTS | | | | | | | | 185 | 901 |
| Boston University School of Med., Boston.—H | 594,618 | 75 | 25 | 19 | 4 | 50 | 32 | ... | ... |
| College of P. and S., Boston.—R | 594,618 | 122 | 12 | 20 | .. | 45 | 36 | ... | ... |
| Harvard University Med. School, Boston.—R | 594,618 | 292 | ... | 69 | .. | 145 | 36 | ... | ... |
| Tufts Medical College, Boston.—R | 594,618 | 327 | 48 | 56 | 17 | 85 | 33 | ... | ... |
| MICHIGAN | | | | | | | | 218 | 772 |
| Detroit College of Medicine, Detroit.—R | 309,653 | 153 | ... | 82 | .. | 84 | 33 | ... | ... |
| Detroit Homeo. Med. Coll., Detroit.—H | 309,653 | 26 | 7 | 12 | [illegible] | 36 | 28 | ... | ... |
| Mich. Coll. of Med. and Surg., Detroit.—R | 309,653 | 72 | 3 | 21 | 1 | 57 | 30 | ... | ... |
| Grand Rapids Med. College, Grand Rapids.—R | 91,630 | 36 | 4 | 11 | 1 | 33 | 28 | ... | ... |
| Univ. of Mich. Dept. of Med., Ann Arbor.—R | 16,033 | 347 | 22 | 64 | 6 | 59 | 36 | ... | ... |
| Univ. of Mich. Homeo. Dept., Ann Arbor.—H | 16,033 | 82 | ... | 15 | [illegible] | 50 | 36 | ... | ... |
| MINNESOTA | | | | | | | | 71 | 324 |
| Univ. of Minn., Homeo. Dept., Minneapolis.—H | 214,112 | 14 | 1 | ... | 1 | 33 | 35 | ... | ... |
| Univ. of Minn., Dept. of Med., Minneapolis.—R | 214,112 | 185 | 4 | 42 | 1 | 101 | 35 | ... | ... |
| Hamline University, Minneapolis.—R | 214,112 | 116 | 4 | 25 | 2 | 47 | 34 | ... | ... |
| MISSISSIPPI | | | | | | | | ... | 22 |
| University of Mississippi, Oxford.—R | 2,006 | 22 | ... | ... | .. | 8 | 34 | ... | ... |

* Evening Colleges. † Records destroyed by fire April 18, 1906.

| Name and Location of College. | Population of city in which college is located. | Number of students registered session of 1905-6. | | Graduates 1906 | | Total number of graduates. | Weeks in college year. | Total graduates all colleges in state 1906 | Total students in all colleges in state 1905-6 |
|---|---|---|---|---|---|---|---|---|---|
| | | Men. | Women. | Men. | Women | | | | |
| MISSOURI. | | | | | | | | 454 | 1,910 |
| Univ. Med. Coll., Kansas City.—R. | 173,064 | 235 | ... | 54 | ... | 70 | 30 | ... | ... |
| Kansas City Hahn. Med. Coll., Kansas City.—H. | 173,064 | 71 | 5 | 19 | 2 | 38 | 28 | ... | ... |
| Eclectic Med. Univ., Kansas City.—E. | 173,064 | 40 | 6 | 15 | 1 | 25 | 26 | ... | ... |
| Ensworth Central Med. Coll., St. Joseph.—R. | 110,479 | 149 | ... | 34 | ... | 41 | 28 | ... | ... |
| Barnes Med. Coll., St. Louis.—R. | 612,279 | 356 | 29 | 67 | 5 | 60 | 31 | ... | ... |
| St. Louis University, St. Louis.—R. | 612,279 | 295 | ... | 115 | ... | 106 | 30 | ... | ... |
| St. Louis College of P. and S., St. Louis.—R. | 612,279 | 278 | ... | 53 | ... | 46 | 30 | ... | ... |
| Amer. Med. Coll., St. Louis.—E. | 612,279 | 57 | 6 | 19 | 3 | 17 | 28 | ... | ... |
| Homeo. Med. Coll. of Missouri, St. Louis.—H. | 612,279 | 46 | ... | 4 | ... | 32 | 29 | ... | ... |
| Washington University, St. Louis.—R. | 612,279 | 239 | ... | 55 | ... | 76 | 32 | ... | ... |
| Univ. of Missouri, Columbia.—R. | 5,651 | 94 | 4 | 6 | 2 | 28 | 34 | ... | ... |
| NEBRASKA. | | | | | | | | 61 | 395 |
| University of Nebraska, Omaha.—R. | 113,361 | 134 | 8 | 6 | 1 | 60 | 32 | ... | ... |
| Creighton Medical College, Omaha.—R. | 113,361 | 169 | 3 | 39 | ... | 55 | 32 | ... | ... |
| Lincoln Med. College, Lincoln.—E. | 44,243 | 63 | 8 | 14 | 1 | 22 | 29 | ... | ... |
| Nebraska College of Medicine, Lincoln.—R. | 44,243 | 10 | ... | ... | ... | 81 | 34 | ... | ... |
| NEW HAMPSHIRE. | | | | | | | | 10 | 59 |
| Dartmouth Medical College, Hanover.—R. | 1,884 | 59 | ... | 10 | ... | 21 | 30 | ... | ... |
| NEW YORK. | | | | | | | | 487 | 2,421 |
| Albany Medical College, Albany.—R. | 93,920 | 165 | ... | 33 | ... | 80 | 29 | ... | ... |
| College of P. and S., New York.—R. | 3,716,139 | 450 | ... | 152 | ... | 208 | 34 | ... | ... |
| Cornell University, New York.—R. | 3,716,139 | 345 | 24 | 53 | 6 | 207 | 34 | ... | ... |
| Eclectic Medical College, New York.—E. | 3,716,139 | 88 | 17 | 13 | 2 | 33 | 32 | ... | ... |
| Long Island College Hospital, New York.—R. | 3,716,139 | 343 | ... | 72 | ... | 95 | 32 | ... | ... |
| New York Homeo. Med. College, New York.—H. | 3,716,139 | 110 | ... | 30 | ... | 89 | 29 | ... | ... |
| New York Woman's Med. Coll., New York.—H. | 3,716,139 | ... | 20 | ... | 6 | 38 | 29 | ... | ... |
| University and Bellevue Med. Coll., New York.—R. | 3,716,139 | 481 | ... | 53 | ... | 108 | 32 | ... | ... |
| Syracuse University, Syracuse.—R. | 114,443 | 144 | 9 | 21 | 2 | 65 | 33 | ... | ... |
| University of Buffalo, Buffalo.—R. | 381,403 | 214 | 11 | 40 | 4 | 92 | 33 | ... | ... |
| NORTH CAROLINA. | | | | | | | | 68 | 355 |
| Leonard Medical School, Raleigh.—R. | 13,934 | 147 | ... | 33 | ... | 10 | 28 | ... | ... |
| University of North Carolina, Raleigh.—R. | 13,934 | 96 | ... | 11 | ... | 37 | 32 | ... | ... |
| North Carolina Med. Coll., Charlotte.—R. | 20,050 | 92 | ... | 24 | ... | 24 | 33 | ... | ... |
| Wake Forest School of Med., Wake Forest.—R. | 823 | 20 | ... | ... | ... | 10 | 35 | ... | ... |
| NORTH DAKOTA. | | | | | | | | ... | 7 |
| University of North Dakota, University.—R. | ... | 7 | ... | ... | ... | 12 | 34 | ... | ... |
| OHIO. | | | | | | | | 224 | 815 |
| Western Reserve University, Cleveland.—R. | 414,950 | 85 | ... | 12 | ... | 56 | 33 | ... | ... |
| Cleveland Coll. of P. and S., Cleveland.—R. | 414,950 | 81 | 7 | 18 | 4 | 61 | 30 | ... | ... |
| Cleveland Homeo. Med. Coll., Cleveland.—H. | 414,950 | 43 | 7 | 11 | 3 | 51 | 30 | ... | ... |
| Eclectic Med. Institute, Cincinnati.—E. | 332,934 | 111 | 5 | 35 | ... | 29 | 32 | ... | ... |
| Medical College of Ohio, Cincinnati.—R. | 332,934 | 153 | 4 | 33 | ... | 75 | 32 | ... | ... |
| Pulte Med. Coll., Cincinnati.—H. | 332,934 | 10 | 3 | 3 | ... | 34 | 30 | ... | ... |
| Miami Medical College, Cincinnati.—R. | 332,934 | 75 | 3 | 21 | 3 | 51 | 32 | ... | ... |
| Ohio Medical University, Columbus.—R. | 135,487 | 135 | 7 | 39 | 3 | 36 | 31 | ... | ... |
| Starling Med. College, Columbus.—R. | 135,487 | 86 | ... | 30 | ... | 39 | 24 | ... | ... |
| Toledo Med. College, Toledo.—R. | 145,901 | 20 | ... | 9 | ... | 31 | 30 | ... | ... |
| OKLAHOMA. | | | | | | | | ... | 32 |
| University of Oklahoma, Norman.—R. | 3,682 | 16 | ... | ... | ... | 10 | 36 | ... | ... |
| Epworth Univ. Med. Dept., Oklahoma City.—R. | 12,800 | 14 | 2 | ... | ... | 23 | 29 | ... | ... |
| OREGON. | | | | | | | | 31 | 132 |
| University of Oregon, Portland.—R. | 98,655 | 70 | 12 | 16 | ... | 36 | 30 | ... | ... |
| Willamette University, Salem.—R. | 4,258 | 50 | ... | 15 | ... | 19 | 28 | ... | ... |
| PENNSYLVANIA. | | | | | | | | 440 | 2,391 |
| Temple Coll. of Med., Philadelphia.—R.* | 1,367,716 | 94 | 7 | 12 | 2 | 50 | 35 | ... | ... |
| University of Pennsylvania, Philadelphia.—R. | 1,367,716 | 577 | ... | 103 | ... | 145 | 35 | ... | ... |
| Hahnemann Medical College, Philadelphia.—H. | 1,367,716 | 186 | ... | 52 | ... | 74 | 32 | ... | ... |
| Jefferson Medical College, Philadelphia.—R. | 1,367,716 | 617 | ... | 200 | ... | 113 | 33 | ... | ... |
| Woman's Medical College, Philadelphia.—R. | 1,367,716 | ... | 136 | ... | 25 | 47 | 31 | ... | ... |
| Medico-Chirurgical Coll., Philadelphia.—R. | 1,367,716 | 467 | ... | ... | ... | 84 | 33 | ... | ... |
| Western Pennsylvania Med. Coll., Pittsburg.—R. | 345,043 | 300 | 7 | 45 | 1 | 104 | 33 | ... | ... |
| PHILIPPINE ISLANDS. | | | | | | | | 37 | 310 |
| San Tomaso University, Manila.—R. | 150,000 | 310 | ... | 37 | ... | 19 | 32 | ... | ... |
| SOUTH CAROLINA. | | | | | | | | 6 | 99 |
| Med. Coll. of South Carolina, Charleston.—R. | 56,062 | 97 | 2 | 6 | ... | 20 | 26 | ... | ... |
| TENNESSEE. | | | | | | | | 341 | 2,043 |
| Tennessee Med. College, Knoxville.—R. | 34,344 | 79 | 3 | 18 | 1 | 26 | 28 | ... | ... |
| Knoxville Medical College, Knoxville.—R. | 34,344 | 45 | ... | 4 | ... | 12 | 26 | ... | ... |
| University of Nashville, Nashville.—R. | 82,711 | 298 | ... | 42 | ... | 33 | 24 | ... | ... |
| Vanderbilt University, Nashville.—R. | 82,711 | 197 | ... | 36 | ... | 32 | 28 | ... | ... |
| University of Tennessee, Nashville.—R. | 82,711 | 182 | ... | 25 | ... | 24 | 28 | ... | ... |
| Meharry Medical College, Nashville.—R. | 82,711 | 305 | 16 | 64 | 4 | 26 | 28 | ... | ... |
| Memphis Hospital Med. Coll., Memphis.—R. | 113,669 | 492 | ... | 82 | ... | 32 | 28 | ... | ... |
| University of the South, Sewanee.—R. | 440 | 119 | ... | 28 | ... | 21 | 29 | ... | ... |
| Chattanooga Medical College, Chattanooga.—R. | 30,469 | 265 | 2 | 32 | 1 | 28 | 29 | ... | ... |
| University of West Tennessee, Jackson.—R. | 15,852 | 40 | ... | 4 | ... | 10 | 28 | ... | ... |
| TEXAS. | | | | | | | | 136 | 834 |
| Fort Worth University, Fort Worth.—R. | 27,192 | 190 | 2 | 24 | ... | 33 | 28 | ... | ... |
| University of Texas, Galveston.—R. | 31,742 | 182 | 7 | 30 | 1 | 23 | 32 | ... | ... |
| Baylor University, Dallas.—R. | 44,159 | 69 | 1 | 8 | ... | 31 | 28 | ... | ... |
| Physio-Med. Coll. of Texas, Dallas.—Ph.M. | 44,159 | 41 | 6 | 11 | ... | 26 | 28 | ... | ... |
| Southwestern University Med. Coll., Dallas.—R. | 44,159 | 81 | 4 | 4 | ... | 31 | 28 | ... | ... |
| College of P. and S., Dallas.—R. | 44,159 | 89 | 6 | 18 | ... | 15 | 28 | ... | ... |
| Gate City Med. Coll., Texarkana.—R. | 5,256 | 156 | ... | 40 | ... | 20 | 25 | ... | ... |
| UTAH. | | | | | | | | ... | 20 |
| Univ. of Utah, Dept. of Med., Salt Lake City.—R. | 57,138 | 30 | ... | ... | ... | 23 | 35 | ... | ... |
| VERMONT. | | | | | | | | 47 | 170 |
| Univ. of Vermont, Burlington.—R. | 19,855 | 170 | ... | 47 | ... | 43 | 27 | ... | ... |
| VIRGINIA. | | | | | | | | 86 | 569 |
| Medical College of Virginia, Richmond.—R. | 86,148 | 242 | ... | 45 | ... | 48 | 30 | ... | ... |
| University College of Medicine, Richmond.—R. | 86,148 | 205 | ... | 20 | ... | 60 | 32 | ... | ... |
| University of Virginia, Charlottesville.—R. | 6,449 | 122 | ... | 21 | ... | 28 | 35 | ... | ... |
| WEST VIRGINIA. | | | | | | | | ... | 35 |
| University of West Virginia, Morgantown.—R. | ... | 35 | ... | ... | ... | 9 | 36 | ... | ... |
| WISCONSIN. | | | | | | | | 30 | 225 |
| Milwaukee Medical College, Milwaukee.—R. | 312,736 | 133 | 6 | 15 | ... | 63 | 31 | ... | ... |
| Wisconsin Coll. of P. and S., Milwaukee.—R. | 312,736 | 84 | 2 | 14 | 1 | 57 | 31 | ... | ... |

* Evening College.

| Name of College. | Alabama, 569. | Arizona, 9. | Arkansas, 463. | California, 393. | Colorado, 161. | Connecticut, 274. | Delaware, 54. | Dist. Colum., 132. | Florida, 107. | Georgia, 576. | Idaho, 41. | Illinois, 2,383. | Indian Ter., 140. | Indiana, 815. | Iowa, 828. | Kansas, 473. | Kentucky, 891. | Louisiana, 489. | Maine, 175. | Maryland, 414. | Mass., 923. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Birmingham Medical College.—R. | 68 | | | | | | | | | | | | | | | | | 1 | | | |
| Medical College of Alabama.—R. | 137 | | | | | | | | 1 | | | | | | | | | | | | |
| Medical Department Arkansas University.—R | | 1 | 156 | | | | | | | | | | 9 | | | | | | | | |
| Cooper Medical College.—R. | 1 | | 1 | 82 | | | | | | | | 2 | | 1 | 3 | 1 | | | 3 | | |
| Med. Dept. Univ. of California.—R. | | | | 58 | | | | | | | 1 | 1 | | | 3 | 1 | 1 | | | | 1 |
| California Medical College.—E* | | | | | | | | | | | | | | | | | | | | | |
| Hahnemann Medical Coll. of the Pacific.—H. | | | | 20 | | | | | | | | | | | | | | | | | |
| College of Phys. and Surg., San Francisco.—R. | | | | 110 | 1 | | | 1 | | | | 2 | | 1 | 1 | | | | | | |
| Oakland Coll. of Med. and Surgery.—R. | | | | 9 | | | | | | 1 | | | | | | | | | | | |
| Coll. of Med., Univ. of So. California.—R. | 1 | 1 | 1 | 26 | 4 | 1 | | | | | 1 | 6 | | 6 | 6 | | 2 | | 2 | 4 | |
| College of Phys. and Surg., Los Angeles.—R. | | 1 | | 8 | | | | | | | | | | 2 | 1 | | 1 | | | | |
| Denver and Gross Coll. of Medicine.—R. | | | | | 48 | | | | | | | 11 | | 1 | 2 | | | | | 1 | 1 |
| Denver Homeopathic College.—H. | | | | | 16 | | | | | | 1 | | | 1 | | | 1 | | | | |
| Colorado School of Medicine | | | | | 38 | | | | | | 1 | 3 | | 2 | 3 | | | | 3 | | |
| Yale University, Department of Medicine.—R. | | | | | | 86 | | 1 | | | | 1 | | | 2 | | | | 1 | | 15 |
| George Washington Univ., Dept. of Med.—R. | 1 | | | 3 | | 5 | | 50 | 2 | 3 | | 10 | | 6 | 3 | | 5 | 6 | 3 | 17 | 5 |
| Georgetown Univ., School of Medicine.—R. | | | | | | 4 | | 32 | | | | 1 | | 1 | 1 | | | 1 | 1 | | 14 |
| Howard University, Medical Department.—R. | 2 | | | | | | 1 | 30 | 3 | 8 | | 3 | | 2 | 1 | | | 3 | | 6 | |
| Atlanta College of Phys. and Surg.—R. | 22 | | 1 | | | | | | 6 | 123 | | | | | | | 2 | 3 | | | |
| Atlanta School of Medicine.—R. | 26 | | | | | | | | 13 | 152 | | | | | | | | 1 | | | |
| Georgia Coll. of Eclectic Med. and Surg.—E. | 6 | | | | | | | | 4 | 42 | | | 1 | | | | | | | | |
| Medical College of Georgia.—R. | | | | | 1 | | | | 2 | 92 | | | | | | | | | | | 1 |
| American Medical Missionary College.—R. | | | | 4 | | 1 | | | | | | 2 | | 1 | 3 | | | 1 | 1 | | |
| Bennett Coll. of Eclectic Med. and Surg.—E. | | | | 1 | 1 | 1 | 1 | | | | 1 | 68 | | 12 | 4 | | 3 | | | | |
| Illinois Medical College.—R. | 1 | | 23 | | | | | | | 1 | 1 | 62 | 1 | 32 | 3 | 1 | 2 | 1 | | | |
| College of Medicine and Surgery.—Ph.M. | 1 | | | | | | | | | | | 17 | | | 5 | | | | | | |
| College of Physicians and Surgeons.—R. | | | 1 | 1 | 3 | | | 1 | 1 | 1 | 2 | 316 | 1 | 27 | 30 | 10 | 3 | 3 | 1 | | |
| Hahnemann Med. Coll. and Hospital.—H. | | | | 1 | | | | | | | | 80 | | 15 | 12 | 11 | 1 | | | | 1 |
| Hering Medical College.—H. | | | | | | 1 | 2 | 1 | | | | 23 | | 2 | 3 | 2 | | | | 1 | |
| Jenner Medical College.—R. | | | | | | | | | | | | 250 | | | | | | | | | |
| Northwestern University Med. School.—R. | | | | 3 | 3 | | | | | | 6 | 303 | | 21 | 52 | 9 | 1 | 2 | | | |
| Rush Medical College.—R. | 1 | 3 | 2 | 9 | 12 | | | | | | 12 | 164 | 1 | 40 | 39 | 11 | 3 | 1 | | | 1 |
| National Medical University | | | | | | | | | | | | 249 | | | | | | | | | |
| American Coll. of Med. and Surgery.—R. | | | 1 | 1 | | | | | | | | 51 | | 29 | 9 | | 2 | | | | 1 |
| Dearborn Medical College.—R. | | | | | | | | | | | | 121 | | | | | | | | | |
| Indiana Medical College.—R. | | | | | | | | | | | | 13 | | 295 | 1 | | 1 | | | | |
| Physio-Medical College of Indiana.—Ph.M. | | | | | | | | | | | | 1 | | 15 | | | 1 | | | | |
| Eclectic Medical College of Indiana.—E. | | | | | | | | | | | | | | 20 | | | | | | | |
| Indiana University School of Medicine.—R. | | | | | | | | | | | | | | 21 | | | | | | | |
| Drake University Coll. of Medicine.—R. | | | | | 2 | | | | | | | 2 | | 1 | 60 | 4 | | | | | |
| Keokuk Med. Coll. of Phys. and Surgs.—R. | | | | 1 | | | | | | | 1 | 35 | | | 93 | 6 | | | | | |
| Sioux City Coll. of Med.—R. | | | | | | | | | | | | 3 | | 1 | 45 | | | | | | |
| State Univ. of Iowa, Homeo. Med. Dept.—H. | | | | | | | | | | | | 2 | | | 38 | 1 | | | | | |
| State Univ. of Iowa, Med. Department.—R. | | | | | 2 | | | | | | | 4 | | | 242 | | | | | | 1 |
| Kansas Medical College.—R. | | | | | 1 | | | | | | | | 1 | 1 | | 77 | | | | | |
| School of Medicine, Univ. of Kansas.—R. | | | | | 1 | | | | | | | 2 | | | 2 | 111 | 1 | | | | |
| Hospital College of Medicine.—R. | | | 4 | 2 | | | | | | | | 10 | 1 | 31 | 1 | | 222 | 7 | | | 1 |
| Kentucky School of Medicine.—R. | 2 | 1 | 6 | | | | | | 3 | 4 | 4 | 5 | | 25 | | | 123 | 7 | | | 2 |
| Louisville Medical College.—R.* | 8 | | 4 | | 1 | | | | 3 | 5 | | 2 | 6 | 18 | 2 | 8 | 46 | 8 | | | |
| Louisville National Medical College.—R. | | | | | | | | | 1 | 2 | | | 1 | 5 | | | 36 | | | | |
| Southwestern Homeopathic Med. College.—H. | | | | | | | | | | | | | | | | | 16 | | | | |
| Medical Dept. Univ. of Louisville.—R. | 12 | | 4 | | 1 | 1 | | | | | | 4 | 2 | 21 | 2 | 2 | 111 | 4 | | | |
| Kentucky University Medical Dept.—R. | 10 | | 4 | | | | | | 2 | 4 | | 3 | 1 | 28 | 4 | 1 | 136 | 3 | 1 | | 1 |
| Flint Med. Coll. of New Orleans Univ.—R. | 1 | | 1 | | | | | | | 1 | | | | | | | | 33 | | | |
| Tulane University, Medical Department.—R. | 43 | | 15 | | | | | | 3 | 9 | | | 1 | | | | | 216 | | | |
| Medical School of Maine, Bowdoin Coll.—R. | | | | | | | | | | | | | | | | | | | 74 | | 6 |
| Baltimore Medical College.—R. | 5 | | | 4 | | 33 | | 1 | 2 | 6 | | 2 | | 1 | 1 | | | 2 | 15 | 56 | 61 |
| Baltimore Univ. School of Medicine.—R. | 1 | | | | | | | | | 1 | | | | | | | | | | 9 | |
| College of Phys. and Surgs. of Baltimore.—R. | 13 | | 1 | | | 13 | 2 | 1 | 1 | 4 | | | | 32 | | | | | 3 | 41 | 12 |
| Johns Hopkins Medical School.—R. | 7 | | 4 | 11 | 2 | 17 | 1 | 4 | 3 | 7 | | 3 | | 5 | 11 | 2 | 3 | | 8 | 50 | 6 |
| Southern Homeopathic Medical College.—H. | | | | | | | 2 | 1 | | | | | | | | | 1 | | | 6 | |
| Woman's Medical College of Baltimore.—R. | | | | | | 2 | | | | 1 | | | | 2 | | | | | | 13 | |
| University of Maryland, School of Med.—R. | | | 1 | | | 6 | 3 | | 3 | 9 | | | | 12 | | 1 | 1 | | | 131 | 6 |
| Maryland Medical College.—R. | 2 | | | | | 4 | 2 | 1 | 1 | 1 | | 1 | 1 | 1 | | | | 1 | | 43 | 5 |
| Boston University School of Medicine.—H. | | | | 1 | | 1 | | 1 | 1 | | | | | 1 | | | | 1 | | | 35 |
| College of Physicians and Surgeons.—R. | | | | | | 4 | 3 | | | 1 | | | | | | | | 1 | | | 85 |
| Harvard University Medical School.—R. | 1 | | 1 | 6 | 3 | 32 | | | | | | 5 | | | 1 | 1 | 2 | | 6 | 1 | 193 |
| Tufts College Medical School.—R. | 1 | | | | | 3 | | | | | | | | | | | | | 12 | | 313 |
| Detroit College of Medicine.—R. | | | | | | | | 1 | | | 1 | | | 3 | | | 1 | | | | |
| Detroit Homeopathic Medical College.—H. | | | | | | | | | | | | | | 1 | | | | | | | |
| Michigan College of Med. and Surgery.—R. | | | | | | | | | | | | | | 2 | | | | | | | |
| Grand Rapids Medical College.—R. | | | | | | | | | | | | | | | | | | | | | |
| Univ. of Michigan Dept. of Med. and Surg.—R. | 2 | | | 3 | 2 | 1 | | | 1 | 1 | 2 | 23 | | 28 | 9 | 1 | 4 | | | | 2 |
| Univ. of Mich., Homeo. Med. College.—H. | | | | | | | | | | | | 2 | | 3 | | | | | | | |
| Coll. of Hom. Med. and Surg., U. of Minn.—H. | | | | | | | | | | | | | | | | | | | | | |
| College of Med. and Surg., Univ. of Minn.—R. | | | | | | 1 | | | | | | 1 | | | 2 | | | | | | |
| Medical Dept. of Hamline Univ.—R. | | | | | | | | | | | | | | | | | | | | | |
| Med. Dept., Univ. of Mississippi, Oxford.—R. | | | | | | | | | | | | | | | | | | | | | |
| Medical Department, Washington Univ.—R. | 1 | | 9 | | | | | | | | 1 | 55 | 3 | 1 | 1 | | 1 | | | 1 | |
| Univ. Med. Coll. of Kansas City.—R. | | 1 | | 1 | 6 | | | | | | | 7 | 6 | | 4 | 85 | | 1 | | | |
| Kansas City Hahnemann Med. Coll.—H. | | | | | | | | | 1 | | | 5 | | 2 | 3 | 23 | 2 | | | | |
| Nebraska College of Medicine.—R. | | | | | | | | | | | | | | | | | | | | | |
| Eclectic Medical University.—E. | | | | 1 | | | | | | | | | 1 | | 1 | 10 | | | | | |
| Ensworth Central Medical College.—R. | | | | | 1 | | | | | | 1 | 3 | 1 | | 12 | 28 | | | | | |
| Barnes Medical College.—R. | 1 | | 12 | 1 | 2 | | | | | | 4 | 84 | 7 | 3 | 5 | 9 | 6 | 1 | 1 | | 1 |
| Marion-Sims-Beaumont Coll. of Med.—R. | | | 6 | | 1 | | | | | | 1 | 90 | 1 | 5 | 8 | 13 | 1 | 1 | | 1 | 1 |
| St. Louis Coll. of Phys. and Surgs.—R. | | | 6 | | 2 | | | | | 1 | | 90 | 6 | 3 | 18 | 1 | 5 | | | | |
| American Medical College.—E* | | | 8 | 1 | 1 | | | | | | 1 | 6 | | | | | | 1 | | | |
| Homeo. Med. College of Missouri.—H. | | | 3 | | | | | | | | | 12 | | 3 | 3 | 1 | | | | | |
| Dept. of Med. of the Univ. of Missouri | | | 1 | | 1 | | 1 | | | | | 3 | | 1 | 4 | 2 | 1 | | | | |
| Univ. of Nebraska Coll. of Med.—R. | | | 1 | | | 1 | | | | | | | | | 6 | | | | | | |
| John A. Creighton Med. College.—R. | | | | 1 | | | | | | | 1 | 1 | | 1 | 37 | 2 | 1 | | | | |
| Lincoln Med. Coll. of Cotner University.—E. | | | | | | | | | | | | 2 | | | 1 | 5 | | | | | |
| Dartmouth Medical College.—R. | | | | | | 7 | | 1 | | | | 1 | | | | | | | 5 | | 15 |
| Albany Medical College.—R. | | | | | | | 1 | | | | | | | | | | | | | | 2 |


Michigan, 589.
Minnesota, 391.
Mississippi, 624.
Missouri, 1,087.
Montana, 37.
Nebraska, 466.
N. Hamp., 107.
New Jersey, 499.
New Mexico, 23.
New York, 2,361.
Nevada, 23.
N. Carolina, 492.
N. Dakota, 61.
Ohio, 975.
Oklahoma, 115.
Oregon, 161.
Penna., 2,115.
R. Island, 104.
S. Carolina, 273.
S. Dakota, 79.
Tennessee, 689.
Texas, 1,026.
Utah, 101.
Vermont, 127.
Virginia, 382.
Washington, 105.
W. Virginia, 358.
Wisconsin, 499.
Wyoming, 9.
Foreign, 551.
P. Is., Ha., P. R., 225.
Total, 25,294.

| NAME OF COLLEGE. | Alabama, 569. | Arizona, 9. | Arkansas, 463. | California, 393. | Colorado, 161. | Connecticut, 274. | Delaware, 54. | Dist. Colum., 132. | Florida, 107. | Georgia, 576. | Idaho, 41. | Illinois, 2,383. | Indian Ter., 140. | Indiana, 815. | Iowa, 828. | Kansas, 473. | Kentucky, 891. | Louisiana, 489. | Maine, 175. | Maryland, 414. | Mass., 923. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| College of Physicians and Surgeons.—R. | 4 | ... | ... | 5 | 1 | 10 | ... | ... | 1 | 3 | ... | 4 | ... | 3 | 1 | 2 | 1 | ... | 4 | 1 | 12 |
| Cornell University Medical College.—R. | 1 | ... | ... | 1 | ... | 2 | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | 1 | ... | 3 | ... | 6 |
| Eclectic Medical College.—E. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Long Island College Hospital.—H. | ... | ... | ... | ... | ... | ... | 2 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1 |
| New York Homeo. Med. Coll. and Hosp.—H. | ... | ... | ... | 1 | ... | 6 | ... | 1 | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | 2 |
| N. Y. Med. Coll. and Hosp. for Women.—H. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Univ. and Bellevue Hosp. Medical Coll.—R. | ... | ... | ... | ... | 1 | 22 | ... | ... | 1 | ... | ... | 1 | ... | 4 | ... | ... | ... | ... | 1 | 1 | 4 |
| Syracuse Univ. Coll. of Med.—R. | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 |
| University of Buffalo, Medical Dept.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| Leonard Medical School.—R. | 10 | ... | 2 | ... | ... | ... | ... | 2 | 4 | 11 | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | 2 | ... |
| Wake Forest School of Medicine.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| North Carolina Medical College.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Med. Dept., Univ. of N. Carolina.—R. | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Western Reserve University Med. Coll.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 5 | ... | 1 | ... | ... | ... | ... | 2 |
| Cleveland Coll. of Physicians and Surgs.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... |
| Cleveland Homeopathic Med. College.—H. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Eclectic Medical Institute.—E. | ... | ... | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | 7 | ... | 9 | 2 | 1 | 13 | ... | ... | ... | ... |
| Medical College of Ohio.—R. | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 3 | ... | 8 | ... | ... | 20 | ... | ... | ... | ... |
| Pulte Medical College.—H. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... |
| Miami Medical College.—R. | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | ... | ... | 4 | ... | ... | ... | ... |
| Ohio Medical University.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 3 | ... | ... | ... | ... | ... | ... | 1 |
| Starling Medical College.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Toledo Medical College.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| College of Medicine, Epworth University.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| School of Med., University of Oklahoma.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | ... | ... |
| University of Oregon, Medical Dept.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Medical Department, Willamette Univ.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Temple Coll. of Phila., Dept. of Medicine.—R. | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| University of Pennsylvania, Dept. of Med.—R. | 4 | ... | 2 | 1 | 1 | 2 | 6 | 1 | 2 | 1 | 1 | 2 | ... | 7 | 6 | 1 | 4 | 1 | 2 | 4 | 21 |
| Hahnemann Med. Coll. and Hospital.—H. | ... | ... | ... | 2 | ... | 1 | 3 | 5 | ... | ... | ... | ... | ... | ... | 1 | 2 | 1 | ... | ... | 2 | 12 |
| Jefferson Medical College.—R. | 1 | ... | 3 | 2 | ... | 10 | 11 | 1 | 1 | 6 | 3 | 7 | ... | 3 | 3 | 1 | 3 | ... | 32 | 32 | 15 |
| Woman's Med. Coll. of Pennsylvania.—R. | ... | ... | ... | 1 | 1 | 1 | 1 | 4 | ... | ... | ... | 1 | ... | ... | ... | 2 | 3 | ... | ... | ... | 3 |
| Medico-Chirurgical Coll. of Philadelphia.—R. | ... | ... | ... | ... | ... | 3 | 3 | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | 3 | 1 | 1 | 1 | 3 |
| Western Pennsylvania Medical College.—R. | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 4 | ... | 3 | ... | ... | ... | ... | ... | ... | ... |
| San Tomaso University, Manila.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Med. Coll. of State of South Caroiina.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Tennessee Medical College.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 | ... | ... | 7 | ... | ... | ... | ... |
| Knoxville Medical College.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Medical Dept., University of Nashville.—R. | 43 | ... | 13 | ... | ... | ... | ... | ... | 4 | 3 | ... | 1 | 1 | 1 | ... | ... | 9 | 34 | ... | ... | ... |
| Vanderbilt University, Med. Department.—R. | 23 | ... | 8 | 2 | ... | ... | ... | ... | ... | 9 | ... | 1 | ... | 2 | ... | ... | 15 | 8 | ... | ... | 1 |
| University of Tennessee, Medical Dept.—R. | 10 | ... | 8 | ... | ... | 1 | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | 20 | 4 | ... | ... | ... |
| Meharry Medical College.—R. | 19 | ... | 21 | ... | 1 | ... | ... | ... | 14 | 27 | ... | 8 | 1 | 1 | ... | 6 | 15 | 6 | ... | 1 | ... |
| Memphis Hospital Medical College.—R. | 24 | ... | 60 | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | 14 | ... | ... | 2 | 2 | 80 | ... | ... | ... |
| University of the South.—R. | 14 | ... | 1 | ... | ... | ... | 1 | ... | 4 | 12 | ... | 1 | ... | ... | ... | ... | 1 | 14 | ... | ... | 1 |
| Chattanooga Medical College.—R. | 51 | ... | 4 | 2 | 2 | 3 | ... | ... | 8 | 12 | 3 | 4 | 4 | 1 | 2 | ... | 4 | 3 | ... | 2 | 1 |
| Univ. of West Tennessee, Med. Dept.—R. | ... | ... | 9 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | 3 | ... | ... | ... |
| Med. Dept., Ft. Worth University.—R. | 1 | ... | 5 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 12 | 1 | 1 | 1 | ... | 4 | ... | ... | ... |
| University of Texas, Dept. of Med.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Baylor University College of Medicine.—R. | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | 6 | ... | ... | ... | ... | 2 | ... | ... | ... |
| Physio-Medical Coll. of Texas.—Ph. M. | ... | ... | 3 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 7 | 1 | ... | ... | ... | ... | ... | ... | ... |
| Gate City Medical College.—R. | 3 | ... | 45 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 17 | 1 | ... | 1 | ... | 13 | ... | ... | ... |
| Southwestern Univ. Medical College.—R. | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... |
| College of Physicians and Surgeons.—R. | ... | ... | 14 | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | 16 | ... | ... | 2 | ... | 2 | ... | ... | 1 |
| University of Vermont, Medical Dept.—R. | ... | ... | ... | ... | ... | 7 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 5 | ... | 21 |
| Medical College of Virginia.—R. | 2 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| University of Utah, Medical Dept.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| University College of Medicine.—R. | 1 | ... | ... | 1 | ... | ... | 2 | ... | 1 | 5 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Univ. of Virginia, Dept. of Medicine.—R. | 3 | ... | 3 | ... | ... | 2 | 1 | ... | 1 | 1 | ... | 1 | ... | 1 | ... | ... | 3 | ... | ... | 7 | ... |
| University of West Virginia.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Milwaukee Medical College.—R. | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | ... | ... | ... | ... | ... | ... |
| Wisconsin Coll. of Phys. and Surgs.—R. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

*Totals exact; distribution based on that of last year.

CURRICULUM.—*Concluded fro page 627.*

| | No. of Lectures. | Hours of Labora- tory. | Hours of Clinics. | Ttotal. |
|---|---|---|---|---|
| Nose and throat | 30 | .. | 30 | 60 |
| Mental and Nervous Diseases | 60 | .. | 60 | 120 |
| Electro-Therapeutics | 20 | .. | 40 | 60 |
| Genito-Urinary Diseases | 30 | .. | 30 | 60 |
| Dermatology and Syphilis | 20 | .. | 20 | 40 |
| Hygiene and Public Health | 30 | .. | .. | 30 |
| Dietetics | 30 | .. | .. | 30 |
| Medical Jurisprudence | 30 | .. | .. | 30 |
| | 1,750 | 1,010 | 1,240 | 4,000 |

The following colleges are members:

College of Medicine University of Southern California, Los Angeles, Cal.; University of California Medical Department, San Francisco, Cal.; Colorado School of Medicine, University of Colorado, Boulder, Colo.; Denver and Gross College of Medicine, Medical Department of the University of Denver, Denver, Colo.; Yale University Department of Medicine (Yale Medical School), New Haven, Conn.; George Washington University Department of Medicine, Washington, D. C.; Georgetown University School of Medicine, Washington, D. C.; Howard University Medical Department, Washington, D. C.; American Medical Missionary College, Battle Creek, Mich., and Chicago, Ill.; College of Medicine of the University of Illinois (College of Physicians and Surgeons), Chicago, Ill.; Illinois Medical College, Chicago, Ill.; Indiana Medical College, School of Medicine, Purdue University, Indianapolis, Ind.; University of Indiana School of Medicine, Bloomington, Ind.; Drake University College of Medicine, Des Moines, Iowa; College of Medicine University of Iowa, Iowa City, Iowa; Keokuk Medical College, College of Physicians and Surgeons, Keokuk, Iowa; Sioux City College of Medicine, Sioux City, Iowa; Kansas Medical College, Medical Department of Washburne College, Topeka Kan.; School of Medicine University of Kansas, Lawrence, Kan.; Hospital College of Medicine, Louisville, Ky.; Kentucky School of Medicine, Louisville, Ky.; Kentucky University Medical Department, Louisville, Ky.; Louisville Medical College, Louisville, Ky.; Flint Medical College, Medical Department New Orleans University, New Orleans, La.; Baltimore Medical College, Baltimore, Md.; College of Physicians and Surgeons, Baltimore, Md.; Johns Hopkins University, Medical Department, Baltimore, Md.; University of Maryland School of Medicine, Baltimore, Md.; Woman's Medical College, Baltimore, Md.; College of Physicians and Surgeons, Boston, Mass.; Detroit College of Medicine, Detroit, Mich.; University of Michigan Department of Medicine and Surgery, Ann Arbor, Mich.; Hamline University College of Medicine, Minneapolis, Minn.; Medical Department University of Mississippi, Oxford, Miss.; University of Missouri Department of Medicine, Columbia, Mo.; University Medical College, Kansas City, Mo.; Medical Department St.Louis University (Marion-Sims-Beaumont College of Medicine), St. Louis, Mo.; St. Louis College of Physicians and Surgeons, St. Louis, Mo.; Washington University Medical Department, St. Louis, Mo.; John A. Creighton Medical College, Medical Department of Creighton University, Omaha, Neb.; University of Nebraska College of Medicine, Lincoln and Omaha, Neb.; University of Buffalo Medical Department, Buffalo, N. Y.; University of North Carolina Medical Department, Raleigh, and Chapel Hill, N. C.; Wake Forest College of Medicine, Wake Forest, N. C.; Medical College of Ohio, Medical Department

| Michigan, 589. | Minnesota, 391. | Mississippi, 624. | Missouri, 1,087. | Montana, 37. | Nebraska, 406. | N. Hamp., 107. | New Jersey, 499. | New Mexico, 23. | New York, 2,361. | Nevada, 23. | N. Carolina, 492. | N. Dakota, 61. | Ohio, 975. | Oklahoma, 115. | Oregon, 161. | Penna., 2,115. | R. Island, 104. | S. Carolina, 273. | S. Dakota, 79. | Tennessee, 689. | Texas, 1,025. | Utah, 101. | Vermont, 127. | Virginia, 582 | Washington, 105. | W. Virginia, 358. | Wisconsin, 499. | Wyoming, 9. | Foreign, 551. | P. Is., Ha., P. R., 325. | Total, 25,294. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | 2 | 2 | 2 | ... | ... | 1 | 65 | ... | 263 | 2 | 1 | ... | 8 | ... | 3 | 10 | ... | 3 | ... | 2 | 3 | 1 | 2 | 1 | 1 | 1 | 3 | ... | 17 | ... | 450 |
| ... | ... | 1 | 1 | ... | ... | 1 | 35 | ... | 293 | ... | ... | ... | 4 | ... | 1 | 4 | 3 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 8 | 1 | 369 |
| ... | ... | ... | ... | ... | ... | ... | 6 | ... | 95 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 105 |
| 1 | ... | ... | 1 | ... | ... | ... | 29 | ... | 292 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 5 | ... | 343 |
| ... | ... | ... | ... | ... | ... | ... | 16 | ... | 76 | ... | ... | ... | 1 | ... | ... | 2 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 110 |
| ... | ... | ... | ... | ... | ... | ... | 7 | ... | 12 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 20 |
| ... | 1 | ... | ... | 1 | ... | 1 | 57 | ... | 353 | ... | ... | ... | 4 | ... | ... | 5 | ... | ... | ... | 2 | 1 | 2 | 3 | ... | 1 | ... | ... | 2 | 13 | ... | 481 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 138 | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | ... | ... | ... | 4 | ... | 153 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 215 | ... | ... | ... | 2 | ... | ... | 5 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 223 |
| ... | ... | 6 | 1 | ... | ... | ... | 2 | ... | 1 | ... | 48 | ... | ... | ... | ... | 6 | ... | 10 | ... | 2 | ... | ... | ... | 25 | ... | 1 | ... | ... | 8 | ... | 147 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 19 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 20 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 88 | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 92 |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 85 | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | 5 | ... | ... | ... | ... | ... | ... | 96 |
| ... | 1 | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | 64 | ... | ... | 8 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 85 |
| ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 76 | ... | ... | 3 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 88 |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | 5 | ... | ... | ... | 33 | ... | ... | 10 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 50 |
| ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 5 | ... | ... | ... | 36 | ... | ... | 14 | ... | ... | ... | 1 | 4 | ... | ... | ... | ... | 19 | ... | ... | ... | ... | 116 |
| ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 90 | 1 | ... | ... | ... | 1 | ... | 1 | ... | 1 | ... | ... | ... | 2 | 1 | ... | 6 | ... | 137 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 9 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 13 |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 67 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 78 |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | 125 | ... | ... | 6 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | 2 | ... | 142 |
| ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 83 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 86 |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 18 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 20 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 14 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 16 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 13 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 13 |
| 1 | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 54 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 18 | ... | 2 | ... | 4 | ... | 82 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 47 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 12 | ... | ... | ... | 1 | ... | 59 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 89 | ... | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | ... | 6 | ... | 101 |
| 1 | 3 | 2 | ... | ... | 5 | 48 | ... | 16 | ... | 7 | ... | 18 | ... | 1 | 354 | 3 | 12 | ... | ... | 9 | 1 | 1 | 3 | 6 | 9 | ... | ... | ... | 19 | ... | 577 |
| ... | ... | ... | ... | ... | ... | 18 | ... | 14 | ... | ... | ... | 7 | ... | ... | 123 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 4 | ... | 186 |
| ... | 1 | 1 | 3 | ... | 2 | 45 | ... | 15 | ... | 17 | ... | 19 | 1 | 6 | 384 | 3 | 1 | 3 | ... | 5 | 4 | 1 | 5 | 1 | 10 | 1 | 1 | 11 | ... | 617 |
| ... | ... | 2 | 1 | ... | 1 | 11 | ... | 8 | ... | 1 | ... | 32 | ... | 1 | 66 | 2 | ... | ... | ... | 1 | 1 | ... | 1 | 1 | ... | ... | ... | 12 | ... | ... | 135 |
| 3 | ... | ... | 1 | ... | 1 | 33 | ... | 14 | ... | 1 | ... | 32 | ... | ... | 382 | 1 | ... | ... | ... | 1 | ... | 3 | ... | ... | 1 | ... | ... | 2 | ... | ... | 467 |
| ... | ... | ... | 2 | ... | ... | ... | ... | 2 | ... | ... | ... | 14 | ... | ... | 267 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 14 | ... | ... | ... | ... | ... | 307 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 310 | 310 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 95 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 97 |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | 1 | ... | 62 | ... | ... | ... | 4 | 1 | ... | ... | ... | ... | ... | 82 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 45 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 45 |
| ... | ... | 66 | ... | ... | ... | ... | ... | ... | 3 | ... | 4 | ... | ... | ... | ... | ... | ... | 14 | ... | 82 | 17 | ... | ... | ... | ... | 3 | ... | ... | ... | ... | 198 |
| ... | ... | 14 | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 6 | ... | 82 | 17 | ... | ... | 1 | ... | ... | 2 | ... | ... | ... | 197 |
| ... | ... | 16 | 3 | ... | ... | ... | ... | ... | ... | ... | 6 | ... | ... | ... | ... | 1 | ... | 4 | ... | 94 | 10 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 182 |
| ... | ... | 51 | 18 | ... | ... | ... | 1 | ... | ... | ... | 4 | ... | 4 | 5 | ... | 2 | ... | 20 | ... | 56 | 33 | ... | ... | ... | ... | 1 | ... | ... | 6 | ... | 321 |
| ... | ... | 198 | 5 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | ... | ... | ... | 71 | 31 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 492 |
| ... | 1 | 15 | 1 | ... | ... | ... | 1 | ... | ... | ... | 5 | ... | ... | ... | ... | 4 | ... | 5 | ... | 17 | 18 | ... | 2 | ... | ... | 1 | ... | ... | ... | ... | 119 |
| 2 | ... | 8 | ... | ... | ... | ... | 8 | 1 | 5 | ... | 10 | ... | 2 | ... | ... | 3 | 1 | 5 | ... | 83 | 6 | 2 | ... | 10 | 1 | 5 | 1 | ... | 8 | ... | 267 |
| ... | ... | 8 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 11 | 7 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 40 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 20 | ... | ... | ... | ... | ... | ... | 144 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 192 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 188 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 189 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 59 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 70 |
| ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 32 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 47 |
| ... | 1 | 2 | 3 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | 67 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 156 |
| ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 81 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 85 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | ... | ... | 1 | 44 | ... | ... | 1 | ... | ... | ... | ... | 4 | 2 | 95 |
| ... | ... | ... | ... | ... | ... | 17 | 4 | ... | 27 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 82 | ... | ... | ... | ... | ... | 5 | ... | 176 |
| ... | ... | ... | ... | 2 | ... | ... | ... | ... | 1 | ... | 21 | ... | 2 | ... | ... | ... | ... | 7 | ... | 1 | 2 | ... | ... | 176 | ... | 25 | ... | ... | 1 | ... | 242 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 29 | ... | ... | ... | ... | ... | ... | ... | ... | 30 |
| ... | ... | ... | ... | ... | ... | ... | 5 | 1 | 1 | ... | 43 | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 | ... | ... | ... | 133 | ... | 6 | ... | ... | ... | ... | 205 |
| ... | 1 | 5 | ... | 1 | ... | 1 | 1 | ... | 3 | ... | 2 | ... | 1 | ... | ... | 5 | ... | 2 | ... | 6 | 1 | ... | ... | 63 | ... | 4 | 1 | ... | 2 | 2 | 122 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 32 | ... | ... | ... | ... | 35 |
| 2 | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | ... | ... | ... | ... | 1 | ... | ... | 119 | ... | 2 | ... | 139 |
| 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 84 | ... | ... | ... | 86 |

* Totals exact; distribution based on that of last year.

University of Cincinnati, Cincinnati, Ohio; Miami Medical College, Cincinnati, Ohio; Cleveland College of Physicians and Surgeons, Medical Department Ohio, Wesleyan University, Cleveland, Ohio; Western Reserve University Medical College, Cleveland, Ohio; Ohio Medical University, Columbus, Ohio; Toledo Medical College, Toledo, Ohio; University of Oklahoma Medical Department, Norman, Okla.; University of Oregon Medical Department, Portland, Ore.; Willamette University Medical Department, Salem, Ore.; Western Pennsylvania Medical College, Medical Department Western University of Pennsylvania, Pittsburg, Pa.; Meharry Medical College, Medical Department Walden University, Nashville, Tenn.; University College of Medicine, Richmond, Va.; University of West Virginia Medical Department, Morgantown, W. Va.; Milwaukee Medical College, Milwaukee, Wis.; Wisconsin College of Physicians and Surgeons, Milwaukee, Wis.

The secretary-treasurer of the Association is Dr. Fred C. Zapffe, 1764 Lexington Street, Chicago.

## SOUTHERN MEDICAL COLLEGE ASSOCIATION.

The following requirements for admission to the freshman year are exacted by the colleges belonging to this Association:

SECTION 3.—He must possess a diploma of graduation from some literary or scientific institution of learning, or a certificate that he has passed the entrance examination to a university, or a certificate from some legally constituted high school. The minimum preliminary education required by the Southern Medical College Association shall be, after Jan. 1, 1906, a grammar school education and two years' successful attendance at a recognized preparatory school or a high school, or its equivalent, said equivalent to be determined by a superintendent of public instruction. A student may be given one month from date of his admission to submit his certificate of qualification. And if he fails to possess the requisite educational qualifications in one or more branches, he may matriculate and attend his first course of lectures, but must present the requisite certificate before matriculating in the second course, and all tickets or certificates issued in such cases must have the conditions printed plainly on the face of each.

The following colleges are members:

Medical Department University of Tennessee, Nashville, Tenn.; Medical Department University of Nashville, Nashville, Tenn.; Medical Department University of the South, Sewanee, Tenn.; Medical Department Vanderbilt University, Nashville, Tenn.; Medical Department Fort Worth University, Fort Worth, Texas; Medical College of Virginia, Richmond, Va.; Tennessee Medical College, Knoxville, Tenn.; Medical College of Alabama, Mobile, Ala.; Birmingham Medical College, Birmingham, Ala.; University College of Medicine, Richmond, Va.; Medical Department Baylor University, Dallas, Texas; Medical Department, University of Mississippi, Oxford, Miss.; Memphis Hospital Medical College, Memp...s, Tenn.; Chattanooga Medical College, Chattanooga, Tenn.

The secretary-treasurer is Dr. G. C. Savage, Nashville, Tenn.

## AMERICAN INSTITUTE OF HOMEOPATHY.

The minimum requirements for entrance into the freshman class of all homeopathic medical colleges, as adopted in 1901, are, with abbreviation, as follows:

COLLEGES AND MEDICAL GRADUATES.

By cities, arranged according to the population. (Population estimated by Census Bureau, 1903.)

| City. | Population. | Number of Medical Colleges and of Graduates. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1901 | | 1902 | | 1903 | | 1904 | | 1905 | | 1906 | |
| | | Colls. | Grads. | Colls. | Grads. | Colls. | Grads. | Colls. | Grads. | Colls. | Grads. | Colls. | Grads. |
| New York | 3,716,139 | 7 | 307 | 7 | 313 | 7 | 391 | 7 | 378 | 7 | 422 | 7 | 387 |
| Chicago | 1,873,880 | 15 | 736 | 15 | 775 | 14 | 850 | 15 | 824 | 14 | 786 | 13 | 743 |
| Philadelphia | 1,367,716 | 5 | 422 | 6 | 400 | 6 | 469 | 6 | 442 | 6 | 469 | 6 | 394 |
| St. Louis | 612,279 | 6 | 331 | 6 | 252 | 6 | 334 | 6 | 350 | 6 | 326 | 6 | 321 |
| Boston | 594,618 | 4 | 184 | 4 | 234 | 4 | 204 | 4 | 237 | 4 | 171 | 4 | 185 |
| Baltimore | 531,313 | 8 | 358 | 8 | 433 | 8 | 401 | 8 | 472 | 8 | 250 | 8 | 371 |
| Cleveland | 414,950 | 3 | 85 | 3 | 89 | 3 | 88 | 3 | 75 | 3 | 59 | 3 | 48 |
| Buffalo | 381,403 | 1 | 46 | 1 | 38 | 1 | 45 | 1 | 54 | 1 | 37 | 1 | 44 |
| San Francisco | 355,919 | 6 | 109 | 6 | 104 | 5 | 118 | 5 | 116 | 5 | 100 | 5 | 93 |
| Pittsburg | 345,043 | 1 | 73 | 1 | 57 | 1 | 79 | 1 | 51 | 1 | 53 | 1 | 46 |
| Cincinnati | 332,934 | 6 | 137 | 5 | 133 | 5 | 156 | 4 | 107 | 4 | 97 | 4 | 95 |
| Milwaukee | 312,736 | 2 | 54 | 2 | 47 | 2 | 66 | 2 | 51 | 2 | 57 | 2 | 29 |
| Detroit | 309,653 | 3 | 74 | 3 | 67 | 3 | 95 | 3 | 106 | 3 | 92 | 3 | 119 |
| New Orleans | 300,625 | 2 | 116 | 2 | 57 | 2 | 87 | 2 | 96 | 2 | 90 | 2 | 110 |
| Washington | 293,217 | 4 | 77 | 4 | 75 | 4 | 94 | 3 | 120 | 3 | 115 | 3 | 100 |
| Louisville | 215,945 | 8 | 190 | 8 | 199 | 7 | 278 | 7 | 263 | 7 | 345 | 7 | 369 |
| Minneapolis | 214,112* | 3 | 89 | 3 | 98 | 3 | 110 | 3 | 88 | 3 | 85 | 3 | 71 |
| Indianapolis, Ind | 191,033 | 4 | 78 | 4 | 87 | 4 | 112 | 4 | 112 | 4 | 116 | 3 | 134 |
| Kansas City, Mo. | 173,064† | 7 | 173 | 6 | 89 | 6 | 139 | 6 | 154 | 5 | 135 | 3 | 91 |
| Toledo, Ohio | 145,901 | 1 | 8 | 1 | 10 | 1 | 14 | 1 | 7 | 1 | 7 | 1 | 9 |
| Denver, Colo. | 144,588 | 3 | 40 | 2 | 45 | 2 | 39 | 2 | 39 | 2 | 37 | 2 | 31 |
| Columbus, Ohio | 135,487 | 2 | 77 | 2 | 93 | 2 | 107 | 2 | 74 | 2 | 67 | 2 | 72 |
| Los Angeles, Cal. | 116,420 | 1 | 19 | 1 | 14 | 1 | 27 | 2 | 24 | 2 | 29 | 2 | 31 |
| New Haven, Conn. | 114,600 | 1 | 18 | 1 | 20 | 1 | 27 | 1 | 23 | 1 | 22 | 1 | 25 |
| Syracuse, N. Y. | 114,443 | 1 | 19 | 1 | 19 | 1 | 29 | 1 | 31 | 1 | 31 | 1 | 23 |
| Memphis, Tenn. | 113,669 | 1 | 189 | 1 | 171 | 1 | 195 | 1 | 153 | 1 | 51 | 1 | 82 |
| Omaha, Neb. | 113,361 | 2 | 50 | 2 | 75 | 2 | 67 | 2 | 57 | 2 | 61 | 2 | 46 |
| St. Joseph, Mo. | 110,479 | 2 | 10 | 2 | 25 | 2 | 37 | 2 | 32 | 2 | 39 | 1 | 34 |
| Portland, Ore. | 98,655 | 1 | 11 | 1 | 20 | 1 | 19 | 1 | 16 | 1 | 26 | 1 | 16 |
| Atlanta, Ga. | 96,550 | 2 | 67 | 2 | 132 | 2 | 36 | 2 | 48 | 2 | 62 | 3 | 88 |
| Albany, N. Y. | 93,920 | 1 | 28 | 1 | 26 | 1 | 33 | 1 | 41 | 1 | 52 | 1 | 33 |
| Grand Rapids, Mich. | 91,630 | 1 | 17 | 1 | 47 | 1 | 16 | 1 | .... | 1 | 5 | 1 | 12 |
| Richmond, Va. | 86,148 | 2 | 119 | 2 | 21 | 2 | 79 | 2 | 66 | 2 | 86 | 2 | 65 |
| Nashville, Tenn. | 82,711 | 4 | 272 | 4 | 123 | 4 | 158 | 4 | 162 | 4 | 213 | 4 | 171 |
| Oakland, Cal. | 70,386 | .. | .... | .. | .... | .. | .... | .. | .... | .. | .... | 1 | 4 |
| Des Moines, Iowa | 65,754 | 1 | 14 | 1 | 10 | 1 | 11 | 1 | 13 | 1 | 12 | 1 | 10 |
| Charleston, S. C. | 56,062 | 1 | 32 | 1 | 4 | 1 | 21 | 1 | 23 | 1 | 28 | 1 | 6 |
| Kansas City, Kan. | 55,348† | 1 | 31 | 1 | 27 | 1 | 10 | 1 | 11 | 1 | 3 | 1 | 57 |
| Portland, Me. | 52,656 | .. | .... | .. | .... | 1 | 20 | 1 | 22 | 1 | 18 | 1 | 17 |
| Ft. Wayne, Ind. | 48,031 | 1 | 4 | 1 | 9 | 1 | 5 | 1 | 5 | 1 | 13 | .. | .... |
| Lincoln, Neb. | 44,243 | 1 | 12 | 1 | 21 | 1 | 16 | 1 | 22 | 1 | 15 | 2 | 15 |
| Dallas, Tex. | 44,159 | 2 | 23 | 3 | 32 | 3 | 35 | 5 | 65 | 4 | 69 | 4 | 41 |
| Birmingham, Ala. | 42,087 | 1 | 15 | 1 | 8 | 1 | 22 | 1 | 5 | 1 | 16 | 1 | 8 |
| Little Rock, Ark. | 42,036 | 1 | 26 | 1 | 11 | 1 | 12 | 1 | 19 | 1 | 28 | 1 | 26 |
| Augusta, Ga. | 41,283 | 1 | 30 | 1 | 47 | 1 | 7 | 1 | 26 | 1 | 14 | 1 | 30 |
| Saginaw, Mich. | 41,151 | 1 | 24 | 1 | 41 | 1 | 34 | .. | .... | .. | .... | .. | .... |
| Mobile, Ala. | 40,686 | 1 | 38 | 1 | 13 | 1 | 12 | 1 | 38 | 1 | 31 | 1 | 29 |
| Topeka, Kan. | 35,388 | 1 | .... | 1 | 16 | 1 | 13 | 1 | 24 | 1 | 23 | 1 | 18 |
| Knoxville, Tenn. | 34,344 | 2 | 39 | 2 | 26 | 2 | 14 | 2 | 18 | 2 | 19 | 2 | 23 |
| Galveston, Tex. | 31,742 | 1 | 6 | 1 | 13 | 1 | 35 | 1 | 23 | 1 | 23 | 1 | 31 |
| Sioux City, Iowa | 31,701 | 1 | 5 | 1 | 10 | 1 | 12 | 1 | 12 | 1 | 14 | 1 | 14 |
| Chattanooga, Tenn. | 30,469 | 2 | 56 | 2 | 48 | 2 | 42 | 2 | 38 | 1 | 39 | 1 | 33 |
| Ft. Worth, Tex. | 27,192 | 1 | 27 | 1 | 17 | 1 | 5 | 1 | 9 | 1 | 21 | 1 | 24 |
| Charlotte, N. C. | 20,050 | .. | .... | .. | .... | .. | .... | 1 | 17 | 1 | 26 | 1 | 24 |
| Burlington, Vt. | 19,855 | 1 | 15 | 1 | 32 | 1 | 31 | 1 | 55 | 1 | 48 | 1 | 47 |
| Ann Arbor, Mich. | 16,033 | 2 | 91 | 2 | 92 | 2 | 105 | 2 | 122 | 2 | 73 | 2 | 87 |
| Jackson, Tenn. | 15,852 | .. | .... | .. | .... | .. | .... | 1 | 3 | 1 | 6 | 1 | 4 |
| Keokuk, Iowa | 14,863 | 1 | 51 | 1 | 52 | 1 | 56 | 1 | 47 | 1 | 50 | 1 | 50 |
| Raleigh, N. C. | 13,934 | 2 | 1 | 2 | 21 | 2 | 27 | 2 | 35 | 2 | 30 | 2 | 44 |
| Iowa City, Iowa | 7,987 | 2 | 51 | 2 | 47 | 2 | 46 | 2 | 58 | 2 | 74 | 2 | 59 |
| Charlottevile, Va. | 6,449 | 1 | 53 | 1 | 53 | 1 | 25 | 1 | 31 | 1 | 41 | 1 | 21 |
| Boulder, Colo. | 6,150 | 1 | 9 | 1 | 13 | 1 | 8 | 1 | 17 | 1 | 6 | 1 | 16 |
| Columbia, Mo. | 5,651 | 1 | 11 | 1 | .... | 1 | 12 | 1 | 10 | 1 | 8 | 1 | 8 |
| Texarkana, Tex. | 5,256 | .. | .... | .. | .... | .. | .... | 1 | 26 | 1 | 26 | 1 | 40 |
| Brunswick, Me. | 5,210 | 1 | 40 | 1 | 4 | .. | .... | .. | .... | .. | .... | .. | .... |
| Salem, Ore. | 4,258 | 1 | 5 | 1 | 5 | 1 | 7 | 1 | 8 | 1 | 7 | 1 | 15 |
| Hanover, N. H. | 1,884 | 1 | 27 | 1 | 15 | 1 | 14 | 1 | 13 | 1 | 12 | 1 | 10 |
| Davidson, N. C. | 904 | 1 | 8 | 1 | 18 | 1 | 10 | .. | .... | .. | .... | .. | .... |
| Sewanee, Tenn. | 440 | 1 | 102 | 1 | 81 | 1 | 38 | 1 | 24 | 1 | 36 | 1 | 28 |
| Totals | ..... | 156 | 5,423 | 155 | 5,174 | 152 | 5,698 | 155 | 5,698 | 151 | 5,592 | 148 | 5,327 |
| Cities of 100,000 or more | ..... | 109 | 4,069 | 107 | 4,019 | 104 | 4,661 | 104 | 4,536 | 102 | 4,319 | 97 | 4,103 |
| Cities of 50,000 to 100,000 | ..... | 14 | 591 | 14 | 410 | 15 | 394 | 15 | 402 | 15 | 505 | 17 | 479 |
| Cities of 25,000 to 50,000 | ..... | 17 | 299 | 18 | 312 | 18 | 264 | 19 | 304 | 17 | 325 | 17 | 292 |
| Cities of 10,000 to 25,000 | ..... | 6 | 158 | 6 | 197 | 6 | 219 | 8 | 269 | 8 | 233 | 8 | 256 |
| Cities of less than 10,000 | ..... | 10 | 306 | 10 | 236 | 9 | 160 | 9 | 187 | 9 | 210 | 9 | 197 |

* With population of St. Paul figures would be 386,150.

† Kansas City, Mo., and Kansas City, Kan., are adjoining, and together have 228,412 population.

1. English Composition.—Exercise on assigned theme, not less than 200 words. Exercise in reading. Exercise in correction of ungrammatical sentences.

2. Mathematics.—Arithmetical exercises in (a) vulgar fractions, (b) decimals, (c) percentage, (d) proportion, (e) square and cube root, (f) weights and measures, (g) decimal system. Mensuration.—(a) Definition of terms, (b) exercises under the more fundamental rules.

3. Geography.—General facts about North America.

4. History.—General, with particular reference to human progress in art, science and letters. (The examination to avoid exact dates and minor details.)

5. Latin Language.—(a) Grammar, (b) four books of Cæsar or its equivalent.

The colleges recognized as in good standing by this organization are: Hahnemann Medical College of the Pacific; Denver Homeopathic Medical College; Hahnemann Medical College, Chicago; Hering Medical College; Homeopathic Medical Department of the State University of Iowa; Southwestern Homeopathic College, Louisville, Ky.; Kansas City Hahnemann

Medical College; Southern Homeopathic Medical College, Baltimore, Md.; Boston University School of Medicine; Homeopathic Medical College of University of Michigan; Detroit Homeopathic College; College of Homeopathic Medicine and Surgery of University of Minnesota; Homeopathic Medical College of Missouri; New York Homeopathic Medical College; New York Medical College for Women; Cleveland Homeopathic Medical College; Pulte Medical College, Cincinnati; Hahnemann Medical College of Philadelphia.

The secretary is Dr. Charles Gatchell, 100 State Street, Chicago.

## NATIONAL CONFEDERATION OF ECLECTIC MEDICAL COLLEGES.

The following are the present minimum requirements for admission to colleges members of this Association:

1. Good English education, to be attested by (a) first-grade teacher's certificate, or (b) a diploma from a graded high school or literary or scientific college or university, or (c) regents' medical student's certificate, or (d) entrance examination covering a high school course including an elementary knowledge of natural history, physics and Latin.

2. Graduates from pharmaceutical, dental and veterinary colleges *may be* allowed one year's time on a four-year medical course only on condition that they comply with the entrance requirements and pass all examinations and perform all laboratory work embraced in the course of study of the freshman year. One year's advanced standing *may be* given students with degrees from a recognized literary college.

3. The course of instruction shall consist of a four-year graded course or its equivalent, as herein prescribed, including four sessions of seven months each in four different calendar years.

The following colleges are members of this Association:

American Medical College, St. Louis, Mo.; Bennett College of Eclectic Medicine and Surgery, Chicago, Ill.; California Medical College, San Francisco, Cal.; Eclectic Medical College of the City of New York, New York, N. Y.; Eclectic Medical Institute, Cincinnati, Ohio; Georgia College of Eclectic Medicine and Surgery, Atlanta, Ga.; Lincoln Medical College, Lincoln, Neb.; Kansas City Eclectic Medical University, Kansas City, Mo.

The secretary-treasurer is John K. Scudder, M.D., 1009 Plum Street, Cincinnati, Ohio.

# *State Boards of Registration*

## COMING EXAMINATIONS.

WYOMING State Board of Medical Examiners, State Capitol, Cheyenne, September 5. Secretary, S. B. Miller, Laramie.

MASSACHUSETTS Board of Registration in Medicine, State House, Boston, September 11-12. Secretary, Edwin B. Harvey, Boston.

OKLAHOMA Board of Medical Examiners, Guthrie, September 25. Secretary, J. W. Baker, Enid.

NEW YORK Boards of Medical Examiners, Albany, September 25-28. Chief of Examining Division, Charles F. Wheelock, Albany.

**Illinois May Report.**—Dr. J. A. Egan, secretary of the Illinois Board of Health, reports the written examination held at East St. Louis May 2-4 1906. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, .75. The total number of candidates examined was 136, of whom 114 passed and 22 failed. The following colleges were represented:

| College. | Year Grad. | Number Examined. |
|---|---|---|
| **PASSED.** | | |
| St. Louis University (Marion-Sims-Beaumont Med. Coll.) | (1905) 1; (1906) | 55, 56 |
| College of P. and S., St. Louis | (1906) | 13 |
| Barnes Med. Coll. | (1905) 1; (1906) | 16, 17 |
| Washington University | (1906) | 26 |
| Homeopathic Med. Coll. of Missouri | (1906) | 1 |
| American Med. Coll. of Missouri | (1906) | 1 |
| **FAILED.** | | |
| Barnes Med. Coll. | (1905) 1; (1906 | 6, 7 |
| College of P. & S., St. Louis | (1906) | 10 |
| St. Louis Univ. (Marion-Sims-Beaumont Med. Coll.) | (1906) | 5 |

**Rhode Island July Report.**—Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, July 5-6, 1906. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, .75. The total number of candidates examined was 30, of whom 23 passed, including 1 non-graduate, and 7 failed, including 2 non-graduates. The following colleges were represented:

| College. | Year Grad. | Per Cent. |
|---|---|---|
| **PASSED.** | | |
| Yale University | (1898) 87; (1903) | 82.3 |
| Georgetown University | (1903) | 75.1 |
| Medical School of Maine | (1897) | 76 |
| Boston University | (1905) 75.9, | 76.9 |
| College of P. & S., Boston | (1906) | 86.7 |
| Harvard Univ. Med. School | (1904) 88.9; (1906) 78, 88, | 88.6 |
| Tufts Coll. Med. School | (1906) | 79.3 |
| College of P. S., Baltimore | (1902) 83.9; (1906) 75.1, 75.4, 81.3. | 81. |
| College of P. & S., New York | (1906) 75.5; | 83.1 |
| Cornell University | (1905) | 77.9 |
| University Med. Coll., New York* | (1896) | 75 |
| Laval University | (1906) | 79.4 |
| **FAILED.** | | |
| Maryland Med. Coll. | (1906) | 61.5 |
| Laval University | (1904) 65.8; (1905) 59.5, 62.7, 73.7 | |

* Now the University and Bellevue Hospital Medical College.

### Reference Table

Of State Board Reports published in THE JOURNAL from Jan. 6 to Aug. 18, 1906, inclusive:

| State. | Date of Exam. | Jour. Page. | Jour. Date. | With Exam. ques. |
|---|---|---|---|---|
| Alabama | 1905 | 745 | March 10. | No. |
| Arizona | Oct. and Jan. | 676 | March 3. | No. |
| | April. | 1,558 | May 19. | No. |
| Arkansas | January. | 455 | February 10. | No. |
| | April. | 1,784 | June 9. | Yes. |
| California | December. | 293 | January 27. | No. |
| Connecticut | November. | 59 | January 6. | No. |
| | March | 1,132 | April 14. | No. |
| Delaware. | June. | 294 | January 27. | No. |
| | June | 381 | August 4 | No. |
| Dist. of Columbia | October | 59 | January 6. | No. |
| | January | 1,052 | April 7. | No. |
| | April | 1,638 | May 26. | No. |
| Florida | October | 294 | January 27. | Yes. |
| | April | 1,638 | May 26. | No. |
| Georgia | April | 1,785 | June 9. | Yes. |
| | April | 1,961 | June 23. | No. |
| Idaho | April | 1,558 | May 19. | Yes. |
| Illinois | October | 142 | January 13. | No. |
| | January | 1,052 | April 7. | No. |
| | April | 294 | July 28. | No. |
| Indian Territory | April | 1,307 | April 28. | No. |
| Indiana | October | 59 | January 6. | No. |
| Iowa | December | 455 | February 10. | No. |
| | March | 1,308 | April 28. | No. |
| Kansas | October | 532 | February 17. | No. |
| | May | 294 | July 28. | Yes. |
| Kentucky | October | 60 | January 6. | No. |
| | May | 1,961 | June 23. | Yes. |
| Louisiana | November | 377 | February 3. | No. |
| | May | 1,962 | June 23. | No. |
| Maine | March | 1,308 | April 28. | No. |
| | July | 533 | August 18. | No. |
| Maryland | December | 825 | March 17. | No. |
| Massachusetts | November | 60 | January 6. | No. |
| | March and May | 64 | July 7. | No. |
| Michigan | October | 60. | January 6. | No. |
| | May | 533 | August 18. | Yes. |
| Minnesota | January | 607 | Feb. 24. | No. |
| | April | 1,638 | May 26. | Yes. |
| Mississippi | May | 1,962 | June 23. | No. |
| Missouri | December | 142 | January 13. | Yes. |
| Montana | April | 1,308 | April 28. | No. |
| Nebraska | February | 907 | March 24. | No. |
| New Hampshire | January | 677 | March 3. | No. |
| North Carolina | May | 140 | July 14. | Yes. |
| North Dakota | October | 60 | January 6. | No. |
| | January | 455 | February 10. | No. |
| | April | 1,308 | April 28. | No. |
| | July | 381 | August 4. | Yes. |
| Ohio | December | 455 | February 10. | No. |
| Oklahoma | December | 979 | March 31. | No. |
| | March | 1,468 | May 12. | No. |
| | June | 295 | July 28. | No. |
| Oregon | January | 677 | March 3. | No. |
| Pennsylvania | December | 907 | March 24. | No. |
| | June | 139 | July 14. | Yes. |
| Rhode Island | January | 455 | February 10. | No. |
| | April | 1,468 | May 12. | No. |
| South Carolina | June | 64 | July 7. | No. |
| South Dakota | July | 455 | February 10. | Yes. |
| | January | 607 | February 24. | Yes. |
| Tennessee | May | 534 | August 18. | No. |
| Texas | October | 60 | January 6. | No. |
| Utah | October | 60 | January 6. | No. |
| | January | 908 | March 24. | No. |
| | April | 1,468 | May 12. | No. |
| Vermont | January | 456 | February 10. | No. |
| Virginia | December | 608 | February 24. | No. |
| Washington | January | 980 | March 31. | Yes. |
| West Virginia | April | 1,963 | June 23. | No. |
| Wisconsin | January | 677 | March 3. | No. |
| Wyoming | January | 608 | February 24. | No. |
| | June | 64 | July 7. | No. |

**Minnesota June Report.**—Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at St. Paul, June 5-7, 1906. The number of subjects examined in was 15; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 65, of whom 54 passed and 11 failed. The following colleges were represented:

PASSED.

| College. | Year of Graduation. | Medicine. | Surgery. | Obstetrics & Gynecology. | Materia Medica. | Anatomy and Histology. | Physiology. | Chem., Toxical & Urinalysis. | Pathology & Bacteriology | Prev. Med. & Med. Juris. | General Average. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| N. W. Univ. M. S. | '06 | 86 | 91 | 86 | 76 | 99 | 93 | 85 | 89 | 80 | 87.2 |
| N. W. Univ. M. S. | '06 | 76 | 88 | 82 | 86 | 96 | 76 | 68 | 78 | 75 | 80.5 |
| N. W. Univ. M. S. | '06 | 81 | 89 | 82 | 90 | 98 | 81 | 92 | 82 | 75 | 85.5 |
| Coll. P. & S. Ch'go. | '06 | 77 | 84 | 80 | 68 | 80 | 86 | 65 | 83 | 75 | 77.5 |
| Hamline Univ. ... | '06 | 83 | 83 | 81 | 95 | 91 | 94 | 77 | 85 | 74 | 84.7 |
| Hamline Univ. ... | '06 | 78 | 87 | 81 | 73 | 85 | 81 | 70 | 80 | 75 | 80. |
| Hamline Univ. ... | '06 | 77 | 90 | 83 | 88 | 83 | 90 | 89 | 81 | 75 | 84. |
| Hamline Univ. ... | '06 | 78 | 79 | 78 | 91 | 85 | 92 | 78 | 76 | 73 | 81.1 |
| Hamline Univ. ... | '06 | 86 | 89 | 81 | 91 | 91 | 85 | 77 | 87 | 78 | 85. |
| Hamline Univ. ... | '06 | 78 | 88 | 83 | 94 | 90 | 90 | 81 | 80 | 76 | 84.4 |
| Hamline Univ. ... | '06 | 77 | 85 | 81 | 87 | 83 | 75 | 80 | 82 | 73 | 80.3 |
| Hamline Univ. ... | '06 | 79 | 85 | 82 | 95 | 88 | 90 | 88 | 77 | 76 | 84.4 |
| Hamline Univ. ... | '06 | 78 | 80 | 78 | 83 | 80 | 76 | 83 | 78 | 75 | 79. |
| Hamline Univ. ... | '06 | 73 | 81 | 86 | 88 | 77 | 86 | 67 | 75 | 75 | 78.6 |
| Hamline Univ. ... | '06 | 84 | 85 | 88 | 89 | 91 | 94 | 90 | 82 | 77 | 86.6 |
| Hamline Univ. ... | '06 | 78 | 73 | 87 | 81 | 80 | 75 | 71 | 75 | 74 | 77.2 |
| Hamline Univ. ... | '06 | 77 | 72 | 74 | 80 | 82 | 78 | 89 | 77 | 77 | 79.4 |
| Hamline Univ. ... | '06 | 79 | 83 | 89 | 87 | 79 | 85 | 84 | 80 | 76 | 82.4 |
| Hamline Univ. ... | '06 | 89 | 86 | 80 | 83 | 83 | 94 | 77 | 77 | 76 | 82.7 |
| Hamline Univ. ... | '06 | 79 | 87 | 82 | 84 | 85 | 80 | 73 | 77 | 77 | 80.4 |
| Hamline Univ. ... | '06 | 87 | 84 | 81 | 79 | 87 | 89 | 70 | 86 | 75 | 82. |
| Hamline Univ. ... | '06 | 80 | 79 | 87 | 75 | 82 | 81 | 60 | 88 | 76 | 78.6 |
| Univ. of Minn.... | '06 | 80 | 88 | 90 | 82 | 91 | 90 | 65 | 77 | 76 | 82.1 |
| Univ. of Minn.... | '06 | 75 | 72 | 94 | 90 | 85 | 79 | 83 | 72 | 75 | 80.5 |
| Univ. of Minn.... | '06 | 75 | 60 | 87 | 93 | 89 | 83 | 95 | 85 | 76 | 82.4 |
| Univ. of Minn.... | '06 | 76 | 81 | 89 | 88 | 89 | 81 | 88 | 75 | 73 | 82.2 |
| Univ. of Minn.... | '06 | 78 | 74 | 78 | 83 | 86 | 85 | 89 | 80 | 78 | 81.3 |
| Univ. of Minn.... | '06 | 80 | 79 | 88 | 83 | 82 | 80 | 76 | 87 | 73 | 80.8 |
| Univ. of Minn.... | '06 | 78 | 75 | 83 | 74 | 76 | 81 | 76 | 77 | 73 | 77. |
| Univ. of Minn.... | '06 | 79 | 89 | 88 | 92 | 86 | 80 | 84 | 80 | 78 | 84. |
| Univ. of Minn.... | '06 | 72 | 79 | 88 | 72 | 78 | 79 | 72 | 81 | 75 | 77.3 |
| Univ. of Minn.... | '06 | 76 | 93 | 90 | 90 | 91 | 95 | 72 | 89 | 76 | 85.7 |
| Univ. of Minn.... | '06 | 76 | 75 | 77 | 85 | 91 | 86 | 77 | 75 | 77 | 79.8 |
| Univ. of Minn.... | '06 | 75 | 88 | 84 | 88 | 89 | 80 | 83 | 82 | 75 | 82.6 |
| Univ. of Minn.... | '06 | 78 | 88 | 91 | 90 | 88 | 79 | 83 | 80 | 76 | 83.5 |
| Univ. of Minn.... | '06 | 78 | 69 | 80 | 83 | 74 | 81 | 81 | 80 | 78 | 78.2 |
| Univ. of Minn.... | '06 | 79 | 89 | 88 | 79 | 91 | 75 | 82 | 89 | 76 | 83.1 |
| Univ. of Minn.... | '06 | 79 | 88 | 97 | 96 | 51 | 87 | 85 | 84 | 77 | 87.1 |
| Univ. of Minn.... | '06 | 77 | 93 | 89 | 88 | 77 | 80 | 65 | 73 | 76 | 79.7 |
| Univ. of Minn.... | '06 | 82 | 88 | 96 | 89 | 87 | 87 | 84 | 83 | 76 | 85.2 |
| Univ. of Minn.... | '06 | 78 | 73 | 85 | 90 | 92 | 82 | 95 | 80 | 76 | 83.4 |
| Univ. of Minn.... | '06 | 76 | 85 | 75 | 72 | 87 | 89 | 78 | 83 | 74 | 79.8 |
| Univ. of Minn.... | '06 | 83 | 75 | 92 | 89 | 89 | 99 | 87 | 84 | 74 | 85.7 |
| Univ. of Minn.... | '06 | 76 | 80 | 67 | 81 | 88 | 88 | 80 | 84 | 75 | 79.8 |
| Univ. of Minn.... | '06 | 76 | 86 | 84 | 89 | 79 | 78 | 65 | 77 | 77 | 77.8 |
| Univ. of Minn.... | '06 | 82 | 79 | 94 | 95 | 91 | 90 | 71 | 84 | 76 | 84.4 |
| Univ. of Minn.... | '06 | 61 | 81 | 84 | 80 | 83 | 76 | 65 | 75 | 76 | 75.6 |
| Univ. of Minn.... | '06 | 78 | 79 | 85 | 71 | 89 | 83 | 67 | 76 | 74 | 78.8 |
| Univ. of Minn.... | '06 | 88 | 74 | 94 | 83 | 96 | 95 | 95 | 90 | 76 | 87.8 |
| Univ. of Minn.... | '05 | 75 | 77 | 90 | 81 | 75 | 75 | 78 | 75 | 75 | 77.8 |
| Univ. of Minn.(1) | '06 | 81 | 82 | 86 | 75 | 77 | 85 | 73 | 82 | 78 | 79.8 |
| Univ. of Toronto. | '06 | 83 | 84 | 95 | 72 | 85 | 78 | 83 | 71 | 76 | 80.7 |
| Univ. of Toronto. | '05 | 79 | 81 | 88 | 69 | 85 | 78 | 95 | 82 | 78 | 81.6 |
| Queen's Univ. Ont. | '05 | 77 | 74 | 76 | 85 | 82 | 90 | 61 | 75 | 68 | 76.4 |

FAILED.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Hamline Univ. ... | '06 | 75 | 68 | 70 | 62 | 80 | 60 | 59 | 75 | 66 | 69.4 |
| Hamline Univ. ... | '06 | 75 | 81 | 77 | 31 | 75 | 75 | 65 | 75 | 74 | 69.7 |
| Hamline Univ. ... | '06 | 75 | 83 | 83 | 51 | 89 | 78 | 70 | 75 | 75 | 75.5* |
| Hamline Univ. ... | '05 | 75 | 57 | 71 | 78 | 71 | 78 | 60 | 59 | 64 | 69.1 |
| Univ. of Minn.... | '06 | 75 | 73 | 77 | 88 | 55 | 74 | 60 | 77 | 75 | 72.6 |
| Univ. of Minn.... | '06 | 76 | 65 | 80 | 66 | 40 | 80 | 96 | 79 | 77 | 73.2 |
| Univ. of Minn.... | '06 | 73 | 77 | 80 | 50 | 75 | 97 | 73 | 79 | 75 | 75.4* |
| Univ. of Minn.... | '06 | 75 | 69 | 74 | 46 | 81 | 78 | 55 | 68 | 72 | 68.6 |
| Univ. of Minn.... | '06 | 75 | 86 | 73 | 52 | 81 | 75 | 60 | 75 | 75 | 72.4 |
| Barnes Med. Coll. | '05 | 42 | 57 | 76 | 21 | 26 | 64 | 51 | 48 | 72 | 50.7 |
| Jefferson M. C.... | '97 | 66 | 68 | 77 | 75 | 53 | 75 | 55 | 89 | 73 | 70.1 |

* Failed to obtain passing mark in important branches.

The following questions were asked:

MATERIA MEDICA AND THERAPEUTICS.

1. What are the therapeutic uses of spiritus glycerylis nitratis? Give the symptoms produced in man by full therapeutic doses. 2. Distinguish between the following, by giving the officinal name and physical properties of each: (a) Mercurous and mercuric iodid; (b) Mercurous and mercuric chlorid. 3. Write a short description of serum antidiphthericum, giving prophylactic and curative dosage, frequency of dosage, and manner of using. 4. Outline the treatment of a case of syphilis after diagnosis is certain. (a) To what stage is mercury particularly applicable? (b) In what stage is potassium iodid most beneficial? (c) What do you understand by mixed treatment? To what stage is it best suited? Write a prescription for it. 5. Write a brief description of adrenalin, giving source, physical properties, physiologic action, field of usefulness and method of use. 6. What is hyoscin hydrobromid? Give its physiologic action, chief use, and dosage. 7. What is the principal alkaloid of physostigma? Name its official salts, with dose of each; its physiologic antidotes; its chief therapeutic use. 8. Give a safe dosage rule in prescribing for children. 9. Give the adult dose with frequency of repetition of the following: (a) acid hydrocyanic. dil.; (b) aconitin (crystalized); (c) fl. ext. gelsemium; (d) liq. potassium arsenitis; (e) sodium nitrite; (f) morphia acetate; (g) chloral hydrate; (h) sodium salicylate; (i) strychnia sulphate; (j) res. podophyllum. 10. Criticise the following prescription:

℞ Morphiæ sulphat ..... gr. iii
Hydrarg. chlorid. corrosiv. ..... gr. i
Potas. iodid. ..... dram ii
Aq. par. ..... ℥ii
Elix. simp. q. s. ad ..... ℥iii
M. Sig.: A teaspoonful in water three times a day.

HOMEOPATHIC MATERIA MEDICA.

1. Compare aconite, veratrum viride, gelsemium and ferrum phos. in febrile conditions. 2. Mention four of the most prominent remedies in the treatment of pneumonia and give indications for the use of the same. 3. Give indications for the use of sepia, graphites, arsenicum, mezereum and rhus in affections of the skin. 4. Name four of the principal remedies that may be used for whooping-cough and differentiate. 5. Compare sepia and pulsatilla; sepia and lilium tigrinum. 6. Give an outline of the use of rhus tox. 7. Give an outline of the use of cuprum metallicum. 8. Compare belladonna, glonoin and melilotus. 9. Differentiate belladonna, rhus tox., cantharis in facial erysipelas. 10. Name five principal remedies for coughs, with their indications.

SURGERY.

1. Colles' fracture—mechanism of origin, anatomic findings, symptoms and treatment. 2. Give in detail treatment of impending death from chloroform anesthesia. 3. Pes planus—symptoms, differential diagnosis and treatment. 4. Fracturæ colli femoris—symptoms subjective and objective, measurements, prognosis and treatment. 5. Describe briefly three (3) surgical diseases of the knee joint characterized by pain and swelling, and name three non-surgical diseases of the knee joint characterized by the same symptoms. 6. Differentiate in parallel columns between perforated duodenal ulcer; perforated typhoid intestinal ulcer and perforative appendicitis. 7. (a) Name ten (10) surgical diseases characterized by abdominal pain. (b) Name ten (10) non-surgical diseases characterized by abdominal pain. 8. Name five (5) surgical diseases peculiar to women characterized by abdominal pain and state briefly the treatment of each. 9. Panophthalmitis—causes, prognosis and treatment. 10. Give indications for enucleation of eye.

OBSTETRICS.

1. Describe the perineal body? What other structures constitute the pelvic floor. 2. Explain fully the mechanism of the second stage of normal labor. 3. Give principal causes of abortion, both local and constitutional; also prophylactic treatment for same. 4. How would you manage a case of transverse presentation with arm prolapsed? 5. What method do you advise to prevent laceration of the perineum? Describe fully its immediate repair in case of laceration.

DISEASES OF WOMEN.

1. Give causes and symptoms of acute ovaritis. 2. Describe fully a recognized operation for cystocele. 3. Give usual modes of infection and symptoms of general septic peritonitis. 4. Give symptoms of movable kidney; divide into subjective and objective. Treatment. 5. What are the most frequent local and general disturbances attending the menopause?

PHYSIOLOGY.

1. Locate and describe, and give function of kidney. 2. Same of cerebellum. 3. Same of parotid gland. 4. Give physiology of digestion of albuminoids. 5. Same of hydrocarbons. 6. Define and describe leucocytes. 7. Describe and explain normal heart sounds. 8. What is lymph; chyle; chyme? 9. Localize five centers in brain. 10. Trace the various steps in the development of an impregnated ovum.

CHEMISTRY, TOXICOLOGY AND URINALYSIS.

1. Give simple test for presence of sodium, potassium, strontium. 2. Give symptoms and treatment of carbolic acid poisoning. 3. Give sources, symptoms and treatment of ptomain poisoning. 4. Give two reliable tests for glycosuria. 5. Given a sample of urine to be analyzed, what would be your first procedure and what might you learn by it? 6. What is the signification of acetone in the urine? 7. What substances constitute the so-called "halogen group?" What is their leading chemical characteristic? 8. What do you understand by atomic weight? 9. What do you understand by chemical affinity? 10. How could you separate a mixture of oxygen and nitrogen?

MEDICAL JURISPRUDENCE.

1. Differentiate rigor mortis from the rigidity of hysteria and catalepsy. 2. How would you determine whether death was due to drowning or to some other cause and the body subsequently submerged? 3. To what extent is a physician protected by law in refusing on the witness stand to divulge the secrets of his patient? 4. What, in a medicolegal sense, constitutes malpractice? 5. What is monomania? Give two forms.

PREVENTIVE MEDICINE.

1. What precautions would you suggest to protect against whooping cough and measles during an epidemic? 2. What method would you suggest to insure pure milk supply for a community? 3. What measures would you adopt during a diphtheria epidemic to prevent contagion? 4. What is the cause of typhoid fever and where found? 5. What prophylactic measures would you recommend for the prevention of cholera infantum?

MEDICINE.

1. Give the symptoms, duration and prognosis of tubercular meningitis. 2. What physical signs warrant the diagnosis of aortic stenosis? 3. Contrast acute miliary tuberculosis with typhoid fever. 4. Define psoriasis. 5. What are the early symptoms of congenital syphilis? 6. Describe paralysis agitans. 7. What are the late symptoms of chronic interstitial nephritis, including urinary analysis? 8. What is the incubation period of scarlet fever, of typhoid fever, of diphtheria? 9. Give the formula for a single feeding of cow's milk modified for an infant of six months. 10. Describe the three commonest intestinal worms.

PATHOLOGY.

1. In a case of cerebral hemorrhage with convalescence, describe changes going on in extravasated blood and its effect on surrounding brain substance. 2. Describe briefly pathologic changes of

stomach, liver, kidneys and arteries produced by chronic alcoholism. 3. Describe the two pathologic stages of parenchymatous nephritis. 4. Describe the morbid anatomy of a case of osteomyelitis of tibia. 5. In a case of vesicular emphysema what are the pathologic changes of lungs and heart?

ANATOMY AND HISTOLOGY.

1. Describe the thyroid gland, anatomically. 2. Describe the formation of the brachial plexus and give its branches. 3. Diagram and name the lobes and fissures of the cerebrum. 4. What is the mediastinal space? Give subdivisions and contents of each. 5. Describe the suprarenal body anatomically. 6. Describe the Malpighian body histologically. 7. Describe the cornea histologically. 8. Diagram a section of a typical artery and name the structures. 9. Describe a red blood corpuscle and give the number per cubic millimeter in normal blood. 10. Describe the corpuscle of Vater or Pacinian body by diagram.

BACTERIOLOGY.

1. Name the different kinds of bacteria that may be found in case of suppurative otitis media. 2. Describe shape and characteristics of tetanus bacillus. 3. Describe mode of infection with malaria. Mention its exciting agent. 4. Describe your own process of disinfection of sick room after diphtheria. 5. What is the Widal test in typhoid fever?

**Utah July Report.**—Dr. R. W. Fisher, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, July 2-3, 1906. The number of subjects examined in was 19; total number of questions asked, 85; percentage required to pass, 75. The total number of candidates examined was 22, of whom 21 passed and 1 failed. The following colleges were represented:

PASSED.

| College. | Year Grad. | Per Cent |
|---|---|---|
| College of P. & S., Chicago | (1906) | 82, 93, 84, 85. |
| College of P. & S., San Francisco | (1906) | 89, 90. |
| Northwestern Univ. Med. School | (1906) | 81, 83. |
| Rush Med. College | (1906) | 87, 88. |
| Hospital College of Med., Louisville | (1898) | 83. |
| University of Michigan | (1906) | 85. |
| University of Bellevue Hosp. Med. Coll. | (1906) | 81, 86. |
| Creighton Med. Coll. | (1905) | 83. |
| St. Louis Univ. (Marion-Sime-Beaumont Med. Coll.) | (1905) | *83. |
| Ensworth Central Med. Coll. | (1906) | 84. |
| Medico-Chirurgical Coll., Philadelphia | (1906) | 87, 90. |
| Jefferson Med. Coll. | (1906) | 86, 86. |

FAILED.

| | | |
|---|---|---|
| St. Louis Univ. (Marion Sims-Beaumont Med. Coll.) | (1904) | 61. |

* Second examination.

# Therapeutics

[**It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulæ and outlines of treatment are answered in these columns.**]

## Erysipelas.

Erysipelas is not an infrequent infection, especially facial erysipelas. It begins most frequently as a primary lesion in the nose, gradually spreading to the face and the nearest glands in the neck. Within a space of a few hours the swelling may become so manifest as to close the patient's eyes and to cause the ears to swell out of proportion. Frequently the infection confines itself (and we say confines itself because no specific thus far has been found) to certain parts of the face, giving it the characteristic red, shiny appearance, or it may travel gradually to the scalp, neck and body. When the disease shows this tendency to travel it is very aptly called migratory. Just as this inclination to spread is rapid in its progress or slow, will the prognosis become more or less unfavorable, as the system will have more time to react and to eliminate the toxic material in the latter case and thus save the patient's strength.

A great deal has been written of the value of local treatment and the possibility of checking the extent of the infection by local applications or injections along the borders of the lesion. Other authorities place great stress on the value of internal treatment and at the same time express little confidence in local applications.

Locally, bichlorid of mercury dressings have been recommended in strength from 1 to 4,000 to 1 to 1,000. These dressings can not be applied properly to the face. The lead and opium lotion is recommended by some physicians, especially in those cases accompanied by burning and pain locally, and in some cases it has acted, seemingly, very efficiently. Iodin painted over the surface or around the edges is advised by some authorities, while others, still, recommend silver nitrate applied locally. With this latter preparation there is a possibility of injuring the epidermis, producing sloughing and a scar. The following combination, however, seems to be the most efficient local remedy:

℞ Ichthyoli
Adipis lanolini hydrosi, āā ..... ℥i 30

M Ft. unguentum. Sig.: Apply locally and freely, followed by a dressing of plain sterilized gauze.

This preparation, owing to the absorption of the lanolin soon dries on the face, and consequently should be carefully washed off night and morning and a fresh dressing applied. While it is advisable to extend the ointment for a short distance beyond the diseased area, it does not check the extension of the infection. This combination, however, does seem to shorten the infection over the areas already involved, so that while new regions may be involved the older areas soon recover, and in a way this protects the vitality of the patient.

Osler is doubtful as to the value of internal treatment, but speaks of possible good being rendered by injections of solutions of bichlorid of mercury, carbolic acid, and the biniodid of mercury in strength of 2 per cent., a short distance beyond the border of the infection.

D. R. Brower, on the other hand, states that his experience has shown no value whatever in local applications, but he lauds the value of the tincture of the perchlorid of iron internally. He recommends this preparation in doses of twenty minims (1.30) each, at intervals of from two to three hours. At the same time, he emphasizes the value of whiskey in this infection, given in the form of eggnogs, five or six eggnogs a day, each containing one half an ounce (15.00) of whiskey.

It is probable that no medication has any value in cutting short the attack. Like pneumonia erysipelas is a self-limited disease, and the patient will recover if the system can be kept in a condition to withstand the effects of the poisons until the vitality of the organism has ceased.

Consequently, proper nursing is the keynote to success in such cases, by keeping the temperature down by bathing, and thus increasing the elimination, and likewise keeping the patient's strength up by proper nourishment. The circulation must be carefully watched, and if necessary strychnin or digitalis may be given for this purpose, administered in doses to meet the individual requirements.

Although the idea has been advanced that the field of infection may be limited by the local application of adhesive strips just beyond the borderline of the disease, experience has shown that such a procedure will not check its course, as the disease is spread through the subcutaneous tissue and not superficially over the surface of the skin.

Some authorities have advised applications of collodion for the same purpose, but its use has been without success. The value of such local measures have gained their unjustifiable reputations because, perhaps, the disease ceased to spread of its own accord simultaneously with such local applications.

The following combinations have also been suggested to be applied locally in the treatment of erysipelas:

℞ Guaiacoli ..... ℥ss 2
Mentholis ..... gr. xv 1
Linimenti camphoræ ..... ℥ii 60

M. Apply over the affected areas every two hours.

In strong, robust individuals pilocarpin is an old-time remedy, its value lying in its ability to promote elimination by the skin. It may be given as folows:

℞ Pilocarpinæ hydrochlor ..... gr. i .06
Sacchari lactis ..... gr. xii .75

M. Ft. cap. No. viii. Sig.: One capsule every six hours.

Or,

℞ Pilocarpinæ hydrochlor ..... gr. i .06
Aquæ ..... ℥iss 6

M. Sig.: Ten drops hypodermically every hour until free diaphoresis occurs.

Or,

℞ Liquoris plumbi subacetatis ..... f. ℥iii 90

M. Sig.: Add the entire amount to two quarts of warm sterile water and apply constantly on a soft cloth.

Radcliffe at one time stated that the following combination applied locally had almost specific properties:

℞ Ichthyoli ..... f. ℥ii 8
Spts. etheris ..... f. ℥ii 8
Collodii ..... f. ℥iiss 75

M. Sig.: To be applied locally.

Another combination suggested for local application is as follows:

℞ Plumbi acetatis
Ammonii carb., āā ..... ℥i 4
Aquæ rosæ ..... ℥viii 240
M. Sig.: Apply locally on lint to allay the irritation.

## Medicolegal

### Malpractice Liability Same as for Personal Injury.

The Supreme Court of Washington says that, in the malpractice case of Froman vs. Ayars, where it holds there was sufficient evidence to support a verdict for the plaintiff for $5,000 damages for failure to properly treat a compound fracture of the bones of his left leg, about two inches above the ankle joint, counsel made an interesting argument to the effect that this case should be distinguished from one which is brought to recover for ordinary personal injuries, where the injury is wholly due to the neglect of the defendant in the case. It was argued that in this case the primary cause of the result which came to the plaintiff was the running away of the team, for which the defendant physician was in no way responsible, and that the degree of the latter's responsible relation to the final outcome could not be as great as that of one whose negligence laid the first foundation for the injury.

The theory of the case, however, was that the final outcome to the plaintiff, by which he was deprived of a foot for the remainder of his life, would not have resulted if the defendant had properly applied his learning and skill. It was true, the plaintiff would have suffered pain and distress from the original injury, yet if the bones had properly united and the wound had healed, the suffering would have been but temporary, while as it was he must continue to suffer humiliation, inconvenience, and loss of earning power during the remainder of his life. If such a result would not have occurred but for the defendant's neglect, the court is not impressed that there was force in the logic of counsel's argument.

The defendant held himself as sufficiently skilled and learned to reasonably and properly treat the plaintiff's injury, and having undertaken to do so for a compensation, the duty was placed on him to bring to bear on such a treatment the reasonable and ordinary skill and care recognized by the members of his profession in general, as proper and necessary in such a case. He was neither required to exercise the highest grade of skill nor the highest degree of care, but only such as are recognized as ordinary and reasonable by the standards of his profession. The issue was made before the jury that he did not do this, and that his failure in that regard was the responsible cause of the final and serious result to the plaintiff.

Nor does the court think the award manifestly too large for a man 44 years of age at the time of the trial, the value of whose earning power should probably be viewed from the standpoint of a common laborer. His life expectancy at the time of his injury was admitted to be 26 years, and to pass through 26 years of life without a foot is a condition that it may be assumed no man, however humble his occupation, would be willing to accept for $5,000. There is seldom a case of this kind, or even one for ordinary personal injuries, when there does not seem to be some element of hardship either way the case may be decided; but such cases are triable by a jury and, when so tried, if there is reasonable evidence to support the verdict, it should not be reduced unless it is manifestly too large when all the facts and circumstances are considered.

### Not Required to Provide Necessary Medical Attendance.

The Supreme Court of Oregon says that Miller vs. Beaver Hill Coal Co. was an action to recover for the breach of an alleged contract by which the company agreed to provide the plaintiff with necessary medical and surgical attention, at a hospital maintained by it, in case of his injury while in its employ. The evidence showed that the company had a hospital at its mine in charge of a physician at which its employés, and those of subcontractors paid through its office, were entitled to be cared for free in case of sickness or injury while in its service. For the support and maintenance of the hospital $1.50 a month was deducted from the wages of each employé by their consent, or at least without objection from them. The plaintiff, while at work for a subcontractor, was seriously injured by an iron splinter penetrating the abdominal wall. He was taken to the company's hospital and the wound examined by a physician temporarily in charge during the absence of the regular physician. The physician found the wound to be of such a character as to require a surgical operation which could not be performed by him alone or with the facilities at his command. He telephoned to the nearest town for assistance, but was unable to obtain a surgeon from that place and thereupon at the plaintiff's request telephoned to another place to a physician who went to the mine and performed the necessary operation. This physician charged the plaintiff $250 for his services, and, the company refusing to reimburse him therefor, this action was brought to recover the amount.

The court reverses a judgment rendered in favor of the plaintiff. It is of the opinion that the evidence fell far short of proving a contract by the company to provide the plaintiff with necessary medical and surgical attendance in case of injury. It says that the evidence merely showed that a certain sum each month was contributed by the plaintiff and his fellow employés, or exacted by the company, for the support and maintenance of a hospital for the use of the employés. There was no evidence that any statement or promise was made by the company to the plaintiff, or any of its employés, as to the object and purpose of the contribution or the benefit they would receive therefrom, other than that it was for hospital purposes. The transaction, therefore, under the testimony, constituted in law nothing more than a subscription by the plaintiff and the other employés for the charitable purpose of maintaining a hospital, where they could obtain such medical attendance and hospital accommodations as the fund thus subscribed would afford. A sick or injured employé was entitled to the use and benefit of the hospital and the medical services there provided, to the extent of the money contributed for that purpose, but he was not obliged to go to the hospital or to accept the accommodations. He could, if he chose, go elsewhere and employ physicians and attendants other than those provided by the company, and, if he did so, the company would not be liable to reimburse him therefor.

The only liability assumed by the company in collecting the fund was to expend it for the purpose for which it was subscribed, and no other. The mere fact that it received or exacted the contribution did not impose on it the absolute duty to furnish each contributor all the medical or surgical attendance that he might need or require, whether the fund provided was sufficient or not. The only duty of the company was to use ordinary care in the expenditure of the money and in the employment of physicians and surgeons in charge of the hospital, and it was not responsible for the negligence of the surgeon so employed in going away and leaving the hospital in charge of another.

### Wills, Insanity in Ancestry, Suicide and Sanity.

The Court of Appeals of New York says, in the case of Roche vs. Nason, that the mere fact that a person came to his death by his own hand within a few days after he executed a codicil to his will did not justify an inference that it was drawn up or executed with suicidal intent. It says that we may guess or surmise that he contemplated suicide; but it is a matter of pure speculation, in the face of an equally strong probability that the thought of self-destruction never entered his mind until after the execution of the instrument. Moreover, it says that the fact that a person executes a will with this sin in contemplation does not necessarily imply any wrongdoing to be effected by his will. He disposes of his property after death as he might dispose of it during his lifetime. Again, the court says that there was testimony in this case from which it might be inferred that insanity had been manifested in the ancestry of the testator; but this proof would not properly lead to any inference of mental unsoundness on his part in the entire ab-

tire absence of evidence tending to show any manifestations of mental derangement during his life of 37 years. Mental derangement can not be predicted solely on the circumstance that he killed himself. Insanity is not inferable from the mere act of suicide. Nor does the fact that a man has taken his own life, alone and of itself and in the absence of any other evidence as to his mental condition, warrant the deduction that his mind was unsound at the time of the suicidal act, or prior thereto, or that he lacked testamentary capacity, for human experience has often shown that sane men have taken their own lives.

---

# Current Medical Literature

## AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

### Medical Record, New York.

*August 11.*

1 *Does the Drinking of Water Give Typhoid Fever? R. C. Eccles, Brooklyn.
2 *Proper Limitations of the Medical and Surgical Treatment of Gastric Ulcer. G. W. McCaskey, Ft. Wayne, Ind.
3 Health and Mortality of the Cotton-Mill Operatives of Blackburn, England. F. S. Crum, East Orange, N. J.
4 Puerperal Types of Sepsis. W. S. Stone, New York.
5 *Study of Seventy Cases of Brain Tumor. A. C. Brush, Brooklyn, N. Y.
6 *Air Dilatation in the Treatment of Chronic Constipation. L. J. Hirschman, Detroit.
7 *Treatment of Injuries to the Extremities by Mechanotherapy. W. O. Rau, New York.

1. **Does Drinking of Water Cause Typhoid.**—Eccles declares that there is no reasonable room to doubt that the development of typhoid fever is connected with the use of infected water; but that typhoid fever results from the drinking of infected water is quite a different proposition. He then emphasizes the important part which flies play in carrying disease germs to food. It is easy to see how food may multiply disease germs to the danger point, but it is not evident, he declares, how any person could take the disease from water that thousands are drinking without the slightest injury.

2. **Treatment of Gastric Ulcer.**—McCaskey believes that every case of gastric ulcer ought, if possible, to have the benefit of careful medical treatment by an intelligent practitioner before the question of surgery has been considered at all. At the outset the case is medical, not surgical. There is no hard-and-fast rule by which the precise length of time can be decided during which medical treatment should be followed in intractable cases before surgical intervention is sought. Each case should be considered in its entirety. Repeated systematic, scientific study of stomach secretion and motility and the material obtained from the fasting stomach are of the greatest value to the physician who has the patient under his care.

5. **Study of Seventy Cases of Brain Tumor.**—Brush states that in twenty of his cases the most prominent early symptom was convulsive seizures. Next to such disorders defective vision was the most common early symptom for which the patient sought relief. Of his cases fourteen patients recovered under medicinal treatment, nineteen were improved by surgical means, thirteen died, twenty-six passed from observation as unimproved and eight are still under observation.

6. **Air Dilatation in Chronic Constipation.**—Hirschman believes that the direct stimulation of the atonic sigmoid and rectum by means of mechanical dilatation up to the present time has given the best results in cases of chronic constipation. He describes his simple pneumatic dilator for accomplishing this distension. In consists of a rubber bag with a stem, which is slipped over the distal end of a Wales bougie, No. 3-5, this bougie being canaled. Compressed air at a low pressure is allowed to enter the bag slowly and distension to any desired extent is produced. A cut-off valve easily regulates the distension. Instead of the compressed-air apparatus an ordinary atomizer bulb or a small bicycle pump may be used. The patient is placed in the Sims position for the treatment. This is repeated daily for from five days to a week. When defecation approaches the normal treatments are given on alternate days. The interval is gradually lengthened.

7. **Mechanotherapy.**—Rau speaks of the advantages of mechanotherapy in the treatment of injuries to the extremities. He describes the arthromotor and believes that its introduction is an important step forward in this field of treatment. This apparatus combines in one machine everything necessary for the treatment of the extremities. It gives passive as well as active movements, and can be fitted for every joint of the extremities. It can be regulated to go from the shortest to a full normal movement, and so as to begin a movement at any angle. Treatment is absolutely painless. In connection with the mechanical treatment, massage and, if possible, local application of heat should always be resorted to. The results of treatment in many cases have been very encouraging. Rau thinks that this treatment, when properly given, will greatly lessen the period of idleness following injuries to the extremities.

### New York Medical Journal.

*August 11.*

8 *Puerperal Fever Treated by Uterovaginal Drainage. A. E. Gallant, New York.
9 *Résumé of Recent Literature Relating to the Suprarenal Glands and Their Application to Clinical Medicine. T. G. Davis, Los Angeles.
10 Gleanings Concerning Menstruation. J. Oliver, London, Eng.
11 *Chronic Atropin Poisoning. J. B. Tyrrell, Waterville, Minn.
12 Physiologic Actions and Therapeutic Uses of the Roentgen Rays. R. H. Boggs, Pittsburg, Pa.
13 *The Significance of the So-Called Occult Hemorrhages in the Diagnosis of Ulcer and Carcinoma of the Stomach. J. Friedenwald and L. J. Rosenthal, Baltimore.
14 Importance of Abdominal Examination Before Insurance. S. P. Gerhard, Philadelphia.
15 Importance of the Cystoscope in Diagnosis and Treatment of Diseases of the Urinary Organs. W. Ayres, New York.
16 Subsequent History of Thirty-two Cases of Chronic Gastric Ulcer Previously Reported. F. H. Murdoch, Pittsburg, Pa.
17 Functions of the Testicles. H. Richardson, Baltimore.

8. **Uterovaginal Drainage in Puerperal Fever.**—Gallant reports six cases in which use was made of his bivalve uterine drain with most excellent results.

9. **Function of Suprarenal Glands.**—Davis believes that we are warranted in concluding that an excess of epinephrin is a causative factor in the production of artero-capillary fibrosis and atheroma. He also calls attention to an unrecognized etiologic factor in the production of disease of the vascular system, namely, the sexual function. His attention was directed to this, he says, while studying the embryology and histology of the suprarenal gland. Its embryologic source and the arrangements of muscle fibers in the walls of the veins and the sinuses are suggestive of an erectile tissue and close relation to the generative apparatus.

11. **Chronic Atropin Poisoning.**—Tyrrell reports the case of a man who, because of a slight cloudiness in the center of the cornea, the result of the application of a caustic, or of granular lids, made use of a solution to make the pupil larger, so that he might see around the scar. He used this solution for fourteen years with good effect, so far as his eyes were concerned, but with disastrous results to his health. Under an appropriate treatment the patient made a complete recovery.

13. **Significance of Occult Hemorrhages in Stomach Affections.**—The observations of Friedenwald and Rosenthal agree in every respect with the conclusions arrived at by other investigators. Occult blood was not found in 92 examinations in 47 cases of chronic gastritis; in 42 examinations in 15 cases of atony of the stomach; in 108 examinations in 42 cases of hyperchlorhydria; in 21 examinations in 8 cases of hypersecretion; in 16 examinations in 9 cases of acute gastritis; in 57 examinations in 25 cases of nervous dyspepsia. So significant is the fact that they have frequently been enabled to rely on the constant absence of this sign as evidence sufficient to exclude the presence of ulcer and cancer, and on the other hand as evidence in favor of the presence of either a gastritis or some form of gastric neurosis.

Thirty-five cases of ulcer of the stomach were examined as to the presence of occult blood in the stools. This condition was found in 26, or 74 per cent. It was not noted, however, at every examination; most frequently, however, before the patient had been placed under treatment and when the pain and nausea were extreme; after the patient had been

placed on the ulcer cure (rest in bed and a diet mainly of milk) for a period of days the occult bleeding usually disappeared. The continuance of occult bleeding after a faithful trial of the ulcer cure has been undertaken is indicative of the fact that a healing of the ulcer is impossible, and surgical interference must then be considered.

Twenty-three cases of cancer of the stomach were examined for occult bleeding; in but very few examinations was the absence of this sign noted. It was found constantly in 19 of the 23 cases, or 82.6 per cent.; in the other 4 this symptom was occasionally noted.

### Boston Medical and Surgical Journal.

*August 9.*

18 *Stokes-Adams Disease. W. R. Steiner, Hartford, Conn.
19 Introduction to the Study of the Fundamental Cause of Splanchnoptosis—Abdominal Incompetence: A Developmental Factor. (To be continued.) A. C. Victor, Boston.
20 What Should Be the Attitude of Public Sanatoria Toward Cases of Tubercular Laryngitis; with Suggestions as to the General Plan of Treatment of Such Cases in Sanatoria. G. L. Richards, Fall River, Mass.
21 *Accident Litigation—the Popular Graft. F. C. Richardson, Boston.

18. **Stokes-Adams Disease.**—Steiner reports three cases. The first patient, a man, aged 77, had syncopal attacks, recurring in the same month at intervals of a year or more; slow pulse; venous pulsations in the neck; arteriosclerosis and cardiac hypertrophy. During the further progress of the disease there was a gradual improvement. The second patient, a man, aged 53, had one epileptiform seizure and one syncopal attack at the apparent onset of the disease. The pulse was slow; no venous pulsations in the veins of the neck; slight arteriosclerosis, with cardiac hypertrophy. A brief sojourn at Nauheim did not give any relief. The man died suddenly about two years after the apparent onset of the disease. During the course of the disease the pulse ranged from 37 to 19. Its most constant rate was 38. The third patient, a woman, aged 51 years, had syncopal attacks, with slow pulse, venous pulsations in the veins of the neck and cardiac hypertrophy. The pulse rate averaged about 40 a minute.

21. **Accident Litigation.**—From a considerable acquaintance with personal-injury cases and an analysis of 100 medicolegal cases Richardson is of the opinion that without the coöperative proof of objective symptoms physicians in a great majority of accident neuroses are justified in regarding the alleged injury as wilfully exaggerated or as belonging to the so-called litigation psychoses. The object of his paper is to point out the possibility and importance of differentiating these litigation psychoses from what may be called true traumatic neuroses, and thus avoiding the danger of contributing to injustice either to the claimant or to the defender. He says that litigation is undoubtedly a potent causative factor in the production and prolongation of functional neuroses, but those cases in which it is the chief cause present symptoms of a much milder grade and can usually be distinguished from those resulting from actual injury.

### St. Louis Medical Review.

*August 4.*

22 Origin and Heredity of Matter. (To be continued.) J. Wright, New York.
23 Case of Hematosalpinx—Rupture and Hemorrhage into the Peritoneal Cavity. L. T. Riesmeyer, St. Louis.

### Lancet-Clinic, Cincinnati, Ohio.

*August 4.*

24 *Incontinence of Feces. L. J. Krouse, Cincinnati.
25 Abdominal Pain—Its Surgical Importance. E. O. Smith, Cincinnati.

*August 11.*

26 The Physician of To-Day. A. B. Davenport, Columbus.
27 Treatment of Chronic Constipation of Children. G. F. Butler, Chicago.

24. See abstract in THE JOURNAL, Aug. 11, 1906, p. 453.

### Archives of Pediatrics, New York.

*July.*

28 The Tonsil as a Portal of Microbic and Toxic Invasion. A. Jacobi, New York.
29 Study of the Stools of Breast-Fed Infants in Relation to the Presence of Starch Enzyme. C. G. Kerley, H. N. Mason and H. A. Craig, New York.
30 Variation in the Fat Percentage of Mother's Milk as a Factor in Feeding. L. Taylor-Jones, Washington, D. C.
31 Food Value of Whey Proteids. C. F. Judson, Philadelphia.
32 Relative Frequency of Heart Disease in Children in Different Countries. G. W. Norris, Philadelphia.
33 Incidence of Disease in 1,000 Cases Among Children. F. P. Van Wart and F. S. Meara, New York.
34 Chronic Lymphatic Leukemia in a Child. T. Le Boutillier, Philadelphia.
35 What Has Been Accomplished in the Treatment of Summer Diarrhea of Children. W. L. Harris, Norfolk, Va.
36 A Case of Generalized Subcutaneous Emphysema, the Result of Miliary Tuberculosis in a Syphilitic Child. W. Mackenzie, Melbourne, Australia.
37 Case of Recurrent Vomiting with Acetonuria. A. W. Myers, Milwaukee.

### The Ohio State Medical Journal, Columbus.

*July.*

38 Autointoxication from the Gastrointestinal Tract. J. C. Heimeter, Baltimore, Md.

### Journal Missouri State Medical Association, St. Louis.

*July.*

39 President's Address at the Missouri State Medical Association. D. C. Gore, Marshall, Mo.
40 Address in Medicine, Missouri State Medical Association. W. G. Moore, St. Louis.
41 Triumphs of American Surgery. C. H. Wallace, St. Joseph.

### St. Louis Courier of Medicine.

*July.*

42 The Serum Disease. J. Zahorsky, St. Louis.

### University of Pennsylvania Medical Bulletin, Philadelphia.

*July.*

43 Significance of the "Fibroglia" Fibrils; An Embryologic Study. A. F. Coca, Philadelphia.
44 Experimental Arteriosclerosis by Adrenalin Inoculations and the Effect of Potassium Iodid. W. T. Cummins and P. S. Stout, Philadelphia.
45 Treatment of Advanced Forms of Prolapse of the Uterus and Vagina. H. D. Beyea, Philadelphia.
46 *Clinical Examination of the Feces. J. D. Steele, Philadelphia.
47 Further Experimental Investigations into the Growth of Tumors. Development of Sarcoma and Carcinoma After the Inoculation of a Carcinomatous Tumor of the Submaxillary Gland in a Japanese Mouse. L. Loeb, Philadelphia.
48 Numerical Classification of Bacteria. D. H. Bergey and H. L. Bates, Philadelphia.

46. See abstract in THE JOURNAL, June 9, 1906, p. 1793.

### Brooklyn Medical Journal.

*July.*

49 Honors That Have Come to the Medical Profession in America. W. Schroeder, Long Island.
50 A Comparative Study of Types of Mental Disease for the General Practitioner. O. M. Dewing, Long Island.
51 Headache as a Symptom in Intranasal Disease. S. H. Lutz, Brooklyn.
52 The Cesarean Operation. W. P. Pool, Brooklyn.

### The Wisconsin Medical Journal, Milwaukee.

*July.*

53 Hematuria of Renal Origin. H. M. Christian, Philadelphia.
54 Toxemia of Pregnancy. R. G. Washburn, Milwaukee.
55 Poisoning by Coal Gas. J. Noer, Stoughton, Wis.

### The Texas Medical News, Austin.

*July.*

56 Therapeutics of Static Electricity. G. D. Bond, Hillsboro, Tex.
57 Preventive Legislation Against Tuberculosis. C. Bell, New York.

### Bulletin of Johns Hopkins Hospital, Baltimore.

*July.*

58 Baron Larrey. A Sketch. J. C. Da Costa.
59 Experience with Blood Cultures in the Study of Bacterial Infections. E. Libman, New York.

### Bulletin of the Lying-in Hospital of New York.

*June, 1906.*

60 Forty-one Cases of Cesarean Section, with Modifications of the Technic. J. W. Markoe and A. B. Davis, New York.
61 Cervical Lymph Adenitis as Observed in the Babies' Clinic. E. L. Coolidge, New York.
62 Lobar Pneumonia, Followed by Miscarriage and Empyema. R. McPherson.
63 An Inexpensive Rubber Binder for the Compression of the Breasts. J. W. Markoe, New York.
64 Toxemia of Pregnancy. R. W. Lobenstine, New York.
65 Anemia in Pregnancy. F. E. Sondern, New York.

### Detroit Medical Journal, Detroit.

*July.*

66 Importance of Public Health Work. F. M. Warner.
67 Art of Laryngoscopy. E. L. Shurly, Detroit.
68 Recent Progress in Gynecology. B. R. Schenck, Detroit.
69 Determination of Blood Pressure by Use of the Sphygmomanometer. A. M. Campbell, Grand Rapids.

### The Ophthalmic Record, Chicago.

*July.*

70 Tubercular Affections of the Eye. W. R. Parker, Detroit.
71 Diabetic Retinitis. W. E. Gamble, Chicago.

## FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

### British Medical Journal.

*July 28.*

1 *Borderland of Medicine and Surgery as Exhibited in the Stomach. G. A. Gibson.
2 *Infantile Scurvy. G. F. Still.
3 Errors of Refraction Among Children Attending Elementary Schools in London. A. H. Thompson.
4 *Varieties of Ringworm and Their Treatment. J. H. Sequeira.
5 Electrical Resistance of the Blood and Urine as a Test of the Functional Efficiency of the Kidney. D. Turner.

1. **Borderland Affections of Stomach.**—Gibson does not touch on anything except the diagnosis and treatment of chronic gastric ulcer and malignant gastric conditions, his remarks being based on 25 cases in which surgical intervention was invoked. There were four deaths in this series. Two patients suffering from simple non-malignant stricture of the pylorus died, as the immediate result of operation. One patient with cancer of the pylorus died within a few hours of the operation; while another, also suffering from malignant affections of the stomach, died within two or three weeks of the operative procedure. In one of the earliest of these 25 cases the patient made an excellent recovery after posterior gastroenterostomy for cicatricial constriction at the seat of an old-standing simple ulcer near the pylorus. Some months afterward there was a recurrence of all the symptoms and an exploratory operation disclosed an extensive cancerous invasion involving many of the glands in the neighborhood of the stomach. Gibson prefers gastroenterostomy in all cases in which pylorectomy is not possible. He says that in all cases of gastric trouble, when ordinary medical methods of treatment fail to bring about a recovery within a reasonable time, recourse should be had to exploratory operation.

2. **Infantile Scurvy.**—Still is convinced of the superior potency of potato as an antiscorbutic, although it is not so suitable for prophylaxis as it is for treatment. It is usually tolerated well for a few weeks during the treatment, but it is more apt to cause digestive disturbance than is fruit juice, and therefore is less suitable for prolonged use as a regular addition to the diet. The potato is prepared by boiling or steaming in the ordinary way with care to obtain a floury potato; the outer floury portion is then scraped off and beaten up thoroughly with enough milk to make a smooth cream, sufficiently thick to pour out of a jug rather heavily—potato 2 heaped teaspoonfuls (with average 2 dram teaspoon) to 1 ounce of milk; 1½ to 2 teaspoonfuls of this potato-cream are given three or four times daily; after two or three weeks the dose of this should be gradually reduced, and omitted altogether within four weeks from the commencement of treatment. The mode of giving the potato-cream is of some importance; most infants take it best mixed up with the ordinary food, but if this is done it should be mixed with a portion only of the food to ensure all of the potato-cream being taken, otherwise if part of the food is left the child does not get the full dose of potato. Occasionally it is taken more readily given separately; in either case it is often disliked at first, but Still has rarely had any serious difficulty in getting a child to take it. In addition, 2 teaspoonfuls of raw-meat juice may be given three or four times in the twenty-four hours, and sometimes ½ teaspoonful of orange juice two or three times a day, but any looseness of the bowels should make the physician cautious in adding this to the potato-cream, for diarrhea in infantile scurvy is a serious complication, as Glisson seems to have observed. At the same time, the child is placed on a diet of milk which has been heated just short of boiling point and diluted with water; the scurvy-producing "food" is of course stopped.

4. **Treatment of Ringworm.**—Sequeira recommends the use of the *x*-ray as an epilating agent in the treatment of ringworm; but as the rays have no lethal effect on the parasite, merely bringing out the hairs with the fundus, the rest of the scalp must be protected against infection from the falling hairs. He uses the direct current of 240 volts, each coil being wound for the voltage used. The amperemeter is at 5. A tube with penetration corresponding to number 6 or 7 on Benoist's scale is the most used one. The best results are obtained with a spark gap of from 12 to 15 cm. The current in the secondary is kept at about 0.7 mp. The hair is cut short, and the infected area is exposed for a definite time to the rays at a distance of 15 cm. from the anode of the tube. With the interrupter making 500 interruptions a minute, and the conditions as above described, sixteen minutes is sufficient to cause complete epilation of the area exposed. The exposure is controlled by the Sabouraud pastille. This little disc coated with platinocyanid of barium is placed midway between the anode of the tube and the area under treatment. When a sufficient dose of *x*-rays has been given to produce epilation, the pastille changes from a yellowish-green tint to an orange. It is a useful adjunct in estimating the dose of *x*-rays, and though there is some variation in the pastilles Sequeira has found them of great value in checking the dosage. It is essential that the pastille be placed exactly midway between the anode and the area treated, and that it be not exposed to light, for the orange tint vanishes on exposure to strong light. At the end of the sitting the area which has been treated is covered with collodion and the patient goes home. Collodion is painted on to prevent the rest of the scalp from becoming infected. At the end of a fortnight the hair begins to fall out, and at the end of three weeks, it is completely shed.

### The Lancet, London.

*July 28.*

6 Head-Nodding with Nystagmus in Infancy. G. F. Still.
7 Pericarditis in Childhood. A. Morison.
8 *Appendicitis and Gangrene of the Vermiform Appendix Considered as Separate Diseases. J. D. Malcolm.
9 Flagellated Protozoa in a Perineal Abscess. E. H. Hunt.
10 A Few Suggestions for the Future of Consumptive Patients of the Working Classes. M. S. Paterson and F. C. Shrubsall.
11 *Passage of Spirochæta Duttoni from Mother to Fetus. A. Breinl and A. Kinghorn.
12 Case of Cardiac Syphiloma with Bradycardia and Obstruction of the Inferior Vena Cava. C. W. Chapman.
13 Gangrene of Both Feet and Legs Due to Embolism and Thrombosis of the Abdominal Aorta in Its Entire Extent, the Result of Mitral Stenosis and Consecutive Cardiac Thrombosis. H. W. Syers.
14 *Case of Gallstones of Large Size Passed by the Rectum. W. E. C. Dickson.
15 Electrical Resistance of the Blood and Urine as a Test of the Functional Efficiency of the Kidney. D. F. D. Turner.
16 Possible Importance of Earth Worms as a Factor in the Spread of Disease. C. F. Fraser.
17 Notes on Rheumatic Complications. A. D. Pithie.
18 Cases of Tabes Dorsalis in which Widespread Cutaneous Sensory Manifestations Completely Disappeared. F. W. Price.

8. **Appendicitis and Gangrene of Appendix.**—Malcolm attempts to show that in a considerable number of diseased conditions of the vermiform appendix the initial lesion is the formation of a gangrenous patch in the wall of that part of the intestine, a condition which is frequently associated with an appendicitis beginning in the mucous membrane, but which may arise independently. Gangrenous patches forming in the wall of the appendix may bring about three well-defined conditions which are easily understood and are quite independent of inflammation beginning in the mucous membrane, although this also may be present. First, there may be an escape into the peritoneal cavity of micro-organisms which excite a serous, a seropurulent, or a purulent exudation unlimited by adhesions. Second, the adjacent peritoneum may become adherent over a gangrenous patch and the latter separates and is discharged through the appendix, recovery taking place. Third, a gangrenous patch may thus become sealed off, but when it separates the adhesions also give way and a localized abscess forms or a rupture into the peritoneal cavity takes place. As the pathology and the consequences of gangrene formation are so different from those of inflammation beginning in the mucous membrane it is necessary that the two conditions should be clearly differentiated from a scientific point of view and as much as possible in practice.

11. **Spirochæta Duttoni.**—Breinl and Kinghorn have been able to demonstrate the passage of these parasites from the mother to the fetus in case of four rats and one guinea-pig. In order to see whether there exists any inborn immunity two young rats, from four to five weeks old, born while the mothers were heavily infected, were inoculated with blood containing spirochetes. They showed no immunity but became infected and passed through an attack identical with that ob-

served in normal rats of the same age. On a third rat ticks were fed and the parasites appeared in the peripheral circulation after five days, the usual incubation period.

14. **Gallstones Passed by Rectum.**—The main interest in the case reported by Dickson lies in the fact that three gallstones of large size were evacuated from the gall bladder by natural means. They had evidently ulcerated through the fundus of the gall bladder into the large intestine, after these two organs had become attached to each other by adhesions, then passed slowly down the large intestine, and became surrounded by a mass of feces, causing partial obstruction of the bowels which was relieved by the repeated use of large enemata. The stones when fitted together made a mass 3½ inches long, forming a complete cast of the interior of the gall bladder. That they passed down by the cystic and common bile ducts is very improbable, there having been no severe attack of jaundice, and moreover the stone which formed a cast of the fundus of the gall bladder was the first to appear in the rectum, and preceded the others by about four months. Ulceration into, and passage by way of, the small intestine is also excluded by the clinical history, and stones of such large size, if they had traveled by the last-named route, would almost certainly have become impacted at the ileocecal valve. A small ischiorectal abscess formed a few days after the first stone was passed, probably from fissuring of the stretched mucous membrane of the anal canal and infection with organisms. This was opened—about one and a half ounces of pus being evacuated—and rapidly healed up; the patient is now in good health. The three stones, after drying, weighed 1.71 ounces.

## Presse Médicale, Paris.

19 (XIV, No. 37.) L'osmose en physiologie et en pathologie. L. Hallion.
20 *Les hallucinations inanitionelles chez les "rescapés" de Courrières (in the long buried miners). H. Lassignardie.
21 (No. 54.) *Cure radicale de la hernie inguinale. M. Savariaud.
22 Obtention du lait normal asceptique (milk). G. Linas.
23 (No. 55.) *L'aphasie sensorielle. Sa localisation et sa physiologie pathologique. J. Dejerine.
24 Successful Electric Treatment of Cicatricial Cheloids.—Traitement des chéloides par l'effluve de haute fréquence. F. Redard and G. Barret.

20. **Hallucinations from Starvation.**—Lassignardie's thesis in 1879 (Bordeaux) was devoted to the psychic disturbances consequent on deprivation of food. His conclusions were to the effect that fasting promoted the development of the intellectual faculties, especially the imagination. In actual starvation the character changed and became irritable and cruel, with loss of memory and will power, and development of hallucinations, agreeable or distressing. He has recently been studying the miners who were buried for so many days in the mine at Courrières. One miner was not released until after an interval of 25 days. He frequently imagined himself at home and talked with his wife and imagined that he found scraps of bread, which he ate with relish. Like most of the others, he frequently imagined that he saw bright lights before him. All the miners said that they became very irritable and frequently quarreled. They all had hallucinations, generally agreeable, but nearly all retained their reason, only a few being actual dupes of their imagination.

21. **Radical Treatment of Inguinal Hernia.**—The points in which Savariaud has modified the Bassini technic are in the restoration of the abdominal wall and in the shortening of the spermatic cord in case of a varicocele or lipoma in the cord. The article is illustrated.

23. **Sensory Aphasia.**—Dejerine presents evidence to confirm the assumption that disturbances in speech and mental disturbances are due to entirely different processes.

27. **Sterile Catgut, Ready for Use.**—Karewski sterilizes the catgut in a special glass vial, open at both ends, in the fumes of boiling 70 per cent. alcohol. The vials are exposed for an hour to the fumes at a temperature of 78.8 or 81 C. The catgut is wound by a yarn-winding machine and is boiled first in glycerin, then extracted cold in ether and alcohol. Each vial is partly filled with alcohol, containing from 1 to 3 per cent. glycerin, and is heated again to 103 C. for an hour. The open ends of the vials are then fused and they are kept in a vessel of alcohol ready for use. Tests with anthrax spores showed that they are destroyed by this method of sterilization. The vials have a small neck with a bulging part above, terminating in a long narrow tip. The end of the catgut is drawn out through this long top of the vial, a knot in the catgut preventing its slipping back, the knot fitting into the bulging part. The vial is opened by breaking the neck just below the bulging part. The article is illustrated, showing the special contrivances for large clinics and for hospital use.

## Berliner klinische Wochenschrift.

25 (XLIII, No. 20.) Zur baktericiden Wirkung radioactiven Mineral-Wassers. M. Rheinboldt.
26 What Value Have Experiments on Frogs for Application in the Clinic?—Welchen Wert haben Digitalis-Froschversuche für die Praxis? Focke.
27 (No. 21.) *Ueber gebrauchsfertiges, dauernd steriles aseptisches Catgut. Karewski.
28 *Das Experiment in der Balneotherapie. F. Heinsheimer.
29 Reply to Bashford's "Experimental Cancer Research."—Erwiderung auf den Artikel des Hern Dr. Bashford; "Einige Bemerkungen zur Methodik der experimentellen Krebsforschung." P. Ehrlich and H. Apolant.
30 *Influence of Domestication on Origination of Disease.—Einfluss der Domestikation auf die Entstehung der Krankheiten. D. v. Hansemann. (Concluded.)
31 Ueber Antiamboceptoren. C. H. Browning and H. Sachs. (Concluded.)
32 Mountain Climate and Sea Air in Children's Affections.—Höhenklima und Seeluft als Heilpotenzen bei Kinderkrankheiten. R. Fischl.
33 *Serpiginous Corneal Ulcer.—Hornhautgeschwülste. Heibron.
34 *Retained Enemas.—Ueber Bleibe-Klystiere. A. Pollatschek.
35 *Balneotherapy in Gynecologic Affections.—Badekuren bei Uterusmyomen und exsudativen entzündlichen Erkrankungen der weiblichen Geschlechtsorgane. L. Nenadovics.

28. **Experimental Research on Balneotherapy.**—Heinsheimer has been studying on dogs with Pawlow fistulæ the effect of various mineral waters, bitters, etc., on the secretions. The results harmonize with those observed in the clinic.

30. **Influence of Domestication on the Origin of Diseases.**—This article was presented as one of the principal addresses at the Lisbon International Medical Congress and was mentioned in the notice of the congress in the last volume of THE JOURNAL. As examples of the degeneration that follows domestication, von Hansemann mentions that neurasthenia and hysteria are frequently observed among animals. He states that he knows of instances of imaginary gestation in the dog. The abdomen became enlarged, the milk glands swelled, and colostrum was secreted, the same as in an imaginary human pregnancy, and all the signs subsided after the normal term of gestation. He also mentions a dog that was given injections of morphin daily for a time on account of an operation. After the injections were discontinued the dog suffered from attacks of pain every day at the hour of the injections, but he quieted down at once if a little water was injected in place of the former morphin. Mental disturbances occur among uncivilized peoples, but the persons thus affected are soon exterminated and do not propagate and perpetuate the neurotic tendency. The increasing numbers of neuropathic individuals parallel the progress of civilization, and might even be used as a criterion of the stage of civilization in a special land. Animals in liberty and untrained children do not eat more than appetite calls for, but domesticated animals and children, tempted to eat by savory viands, soon acquire the habit of eating more than they require. In respect to tumors he remarks that wild animals and uncivilized human beings seldom live to reach the cancer age, which may explain the rarity of cancer among them. Tuberculosis in persons occupied in dust-laden air does not affect the apices. The tuberculous lesions are found where the inhaled dust is most accumulated. This form of tuberculosis is most certainly a "domestication affection." The same might be said of ordinary tuberculosis affecting a person changing to different conditions of life. Japanese students in Germany are liable to acquire tuberculosis, as also German students in Japan, showing the importance of a changed manner of life in the origin of the disease. This fact is also evidenced by the frequency of tuberculosis in prisons, etc. True gout is a typical example of a "domestication affection," he thinks. He has never known of its occurrence spontaneously in animals or among uncivilized peoples, and the same can be said of rachitis. The latter is never found

among people living in the open air or in well-ventilated houses who keep the children out of doors and refrain from handling them up much in infancy. In conclusion he mentions the evil effects of wearing deforming shoes, corsets and hard hats as "domestication affections."

33. **Serpiginous Ulcer of the Cornea.**—Helbron urges promptness in treating ulcer of the cornea, as many eyes are still lost every year from progressing hypopyon-keratitis. Antipneumococcus serum is a valuable adjuvant, but can not be relied on exclusively, he thinks. He believes in applying the galvano-cautery even in the very earliest stages, using it at a low red heat, so as not to destroy the sound cornea beneath in the incipient cases, supplementing it with perforation and cleansing out the ulcer excavation in severe cases. Boric acid or sublimate salve afterward, he states, is more effectual than iodoform.

34. **Retained Enemas.**—Pollatschek uses small enemas of 50 or 100 or 150 gm. of Carlsbad waters at a temperature of about 50 C. in the treatment of chronic diarrhea. The infused fluid is retained and the procedure is repeated until the patient is able to retain the enema. He has found these small, hot enemas a very reliable palliative and curative measure. Boiled water and salt solution have also been found useful by his patients after their return home, but he has no personal experience except with the Carlsbad Sprudel water.

35. **Balneotherapy in Gynecologic Affections.**—Nenadovics reviews what has been written on this subject and his own experience, all tending to show, he thinks, the value of balneotherapy in gynecologic affections as soon as the febrile stage is past and the patient is able to travel. The ability to travel depends on the absence of fever and the general condition; the local pain and tenderness may be disregarded in cases with exudation and inflammatory processes. Mud baths, he states, are especially useful in case of uterine myomas in young women of delicate constitution, debilitated from hemorrhages, and also in chlorosis.

### Münchener medizinische Wochenschrift.

36 (LIII, No. 21.) Nachweis von Antituberkulin im tuberkulösen Gewebe (tissues). E. Weil and H. Nakajama.
37 Zur Kenntnis und Beurteilung des kriminellen Aborts. Schickele.
38 *Zur Diagnose der kongenitalen Dünndarm-Atresie, unter bes. Berücksichtigung der Untersuchung des Mekoniums. K. Walz.
39 Therapeutische Verhalten der akuten Otitis Media mit Berücksichtigung ihrer verschiedenen Aetiologie. Scheibe.
40 Zum Nachweis der Azetessig-Säure im Harn (aceto-acetic acid in urine). L. Lindemann.
41 Technisches zur Bierschen Stauung (suction treatment). F. Kuhn.
42 Die medizinische Psychologie mit Bezug auf Behandlung und Erziehung der angeborenen Schwachsinnigen (training of feeble-minded). A. Uffenheimer.
43 (No. 22.) *Aktive Immunisierung gegen Infektions-Krankheiten. Dieudonné.
44 *Cultivation of Typhoid Bacilli from Blood.—Züchtung von Typhusbazillen aus dem Blut. Fornet.
45 *Formalin in Biologic Blood Test.—Anwendung von Formalin bei dem Uhlenhuthschen Verfahren. W. Loele.
46 History of Spinal Anesthesia.—Zur Geschichte der Rückenmarksanasthesie. August Bier (Bonn).
47 *Rest in the Open Air for Gallstone Patients.—Liegehallen für Gallensteinkranken. F. Fink.
48 Zur Röntgen-Bestrahlung der Leukämie. J. Arneth.
49 *Metabolism in Leukemia under Röntgen Treatment.—Untersuchungen über den Stoffwechsel bei Leukämie während der Röntgenbehandlung. I. Rosenstern.

38. **Diagnosis of Congenital Atresia of the Small Intestine.**—Walz describes the postmortem findings in a case of atresia of the small intestine associated with horseshoe kidney, and shows that the atresia is due to embryonal malformation. Meconium can be passed even with complete atresia of the duodenum. In every case of continuous vomiting by a newborn infant the meconium should be histologically examined, as operative treatment of atresia of the duodenum can count on success only if done early. If there is no spontaneous passage of meconium, then some can be obtained with an enema. Entire absence of lanugo hairs in the meconium, he states, is a positive sign of complete occlusion of the duodenum before the fifth month of embryonal development. This diagnosis is strengthened by the absence at the same time of pavement epithelium and of elements of food (droplets of fat).

43. **Active Immunization Against Infectious Diseases.**—This communication was the summarizing report on this subject, read at the Lisbon International Medical Congress.

44. **Cultivation of Typhoid Bacilli from Coagulated Blood.**—Fornet states that he was able to cultivate typhoid bacilli from the blood in 14 out of 19 cases of typhoid fever long before the agglutination test gave positive findings. The bacilli in unmodified blood all died, either from the bactericidal power of the blood or from the mechanical injury from the fibrin network. When bile is added to the blood it breaks up the fibrin network and releases the bacilli, so that they can be cultivated from the blood afterward. The clot of blood left from the agglutination test is placed in a test tube with about 5 c.c. of bile from the slaughter house and put in the incubator over night. A very small amount of blood is sufficient for the purpose.

45. **Improved Formalin Technic for Biologic Test.**—The great difficulty with the Uhlenhuth-Wassermann biologic precipitation test has always been the rapid spoiling of the blood and meat extracts, and the necessity that the material with which the animals are injected must be sterile. This difficulty can be obviated by adding formalin to the extracts. Loele found that the best mixture for the purpose was 2 per cent. formalin and 0.6 per cent. sodium chlorid in distilled water. This is mixed half and half with the blood to be injected into the rabbit to produce the prepared serum. The mixture found most effectual for preserving the extracts of blood and tissues was 75 parts of distilled water, 15 parts of calcium bichlorid (1 per cent. solution in distilled water); 10 parts of magnesium chlorid, and 1 part formalin. Precipitation occurs with remarkable distinctness with this alkaline formalin mixture.

47. **Rest in the Open Air for Gallstone Patients.**—Fink proposes to have erected at Carlsbad a "reclining hall" (Liegehalle) for gallstone patients, for whom rest and warmth to the abdomen for an hour or two or longer daily have been ordered. He believes that those suffering from cholelithiasis thrive much better when they spend the entire afternoon lying down, with very little exercise in the mornings. He would like to have open shelters provided, as for the tuberculous, and the Carlsbad authorities are now discussing ways and means to carry his proposal into effect.

49. **Metabolism in Leukemia Under Roentgen Treatment.**—This long article concludes with a warning that the general condition should be watched carefully and Roentgen treatment be suspended, notwithstanding a progressive reduction in the leucocytes, if anything indicates that the action of the Roentgen rays is going beyond the desired effect. The number of reds and the proportion of hemoglobin must be supervised, and also the elimination of uric acid. If the latter shows no signs of reduction, this must be accepted as a signal for special caution.

### Therapie der Gegenwart, Berlin.

*Last indexed, page 567.*

50 (XLVII, No. 4.) Present Status of Cancer Research.—Der heutige Stand der Krebsforschung. H. Apolant.
51 *Zur Behandlung Hartnäckiger Ischias-Fälle mit perineuraler Infiltration (sciatica). Umber.
52 *Zur Behandlung der chronischen Verstopfung (obstipation). O. Kohnstamm.
53 Diagnose und Therapie der spindelförmige nDilatationen der Speiseröhre (fusiform enlargement of esophagus). B. Auerbach.
54 Behandlung der oberen Luftwege mit Quillajarindendecoct (infusion of quillaja). Zickgraf.
55 Zwei Fälle von chronisch-ankylosierender Entzündung der Wirbelsäule (spine). R. Zuelzer.
56 Zur Diagnose und Therapie des chronischen Dickdarm-Katarrhs (of large intestine). W. Zweig.

51. **"Infiltration" Treatment of Sciatica.**—Umber has had excellent results in 14 cases of chronic, long rebellious sciatica treated with perineural injections by a modified infiltration technic. He injected from 70 to 100 c.c. of a 1 per thousand solution of eucain with 8 per thousand sodium chlorid. Nine patients were cured completely by a single or once-repeated injection. One, a syphilitic, was only slightly improved. In another patient paresis of the peroneus developed tardily after the one effectual injection. In some cases slight twinges were felt later in the peroneus region, but they subsided after a small amount of the fluid had been injected at the sensitive

point (30 c.c.). It was truly remarkable, he says, to see patients walking about entirely free from pain the day after the injection, when up to that time they had suffered continuous agony unmodified by any treatment. The last four patients were injected with physiologic salt solution alone, without the eucain, and the results were exactly as good as with the anesthetic. He injected a little larger quantity, up to 170 c.c. A single injection of this kind was followed by complete relief from pain in forty-eight hours. This latter technic is so simple and free from any danger that he advocates it for general adoption, instead of the eucain for fear of encountering an idiosyncrasy to this drug. He cites a case on record of death from 0.08 gm. of eucain. Lange of Leipsic, was the first to practice this "nerve infiltration," as was mentioned at the time in these columns, page 586 of vol. xliv.

52. **Treatment of Constipation.**—The principal features of Kohnstamm's successful treatment are the avoidance of meat and the ingestion of milk three times a day at least. He believes that worry has a constipating effect, and that the focussing of the will power is liable also to have an inhibiting influence on the visceral functions.

### Gazzetta degli Ospedali, Milan.

57 (XXVII, No. 33.) Ricerche batteriologiche sulla infezione tifoidea. G. Curlo.
58 *La tripsina, fermento solubile proteolitico del pancreas, per la cura del cancro. G. Zanoni.
59 (No. 36.) *Contributo critico-sperimentale allo studio dell' etiologia della rabbia (rabies). C. S. Materazzi.
60 *Polmonite epidemica e infezione pneumonica famigliare. A. De Blasi.
61 *Il sintoma palmo-plantare di Philipovicz nella febbre tifoidea. G. Minciotti.
62 Relations Between a Boil and Paranephritis.—Sui rapporti fra furuncolo e paranefrite suppurata. F. Bindi.
63 Sulla pretesa coltivazione delle amebe parasite. P. Barbagallo.
64 (No. 39.) La patogenesi della anemia da anchilostoma. A. Berti.
65 Su la persistenza di laringo-stenosi dopo la intubazione o la tracheotomia nei bambini. G. Copetti.
66 *Nuovo processo per l'allacciatura dell'arteria innominata (ligatura). E. Giordano.
67 Uroscopio tascabile per l'esame delle urine al letto dell' ammalato (bedside examination of urine). E. Ronzani.
68 (No. 43.) *Sulla diagnosi delle alterazioni funzionali del fegato e della sifilide epatica (functional disturbances in liver). E. De Renzi.
69 Sulla variabilita del bacillo del tifo nei differenti tessuti dell' organismo. V. Maragliano.
70 (No. 48.) Coagulabilita e xantocromia del liquido cerebro-spinale in un caso di lesione della coda equina. L. Fornaca.
71 *Sulla formazione e sul valore semeiologico del muco e delle muco-membrane. A. Riva.

58. **Trypsin in Treatment of Cancer.**—Zanoni has been repeating Beard's experiments with pancreatic ferment in the treatment of cancer. His results were likewise positive; the parts of the cancer in contact with the ferment became destroyed; granulations from the ear, and nasal polyps placed in the ferment in a test tube were rapidly digested. A superficial mammary mouse cancer became hollowed out under the influence of the trypsin, but without pain and without eschar formation. In proportion to the amounts injected into the mouse tumors, it would be necessary to inject a human being with 177 c.c. for a weight of 70 kg.

59. **Etiology of Rabies.**—Materazzi's researches confirm those of others, sustaining the etiologic importance of the Negri bodies in rabies. They can be detected and the diagnosis confirmed in 24 hours, he says, by simple microscopic examination of the fresh hippocampus, and with a minimal amount of material.

60. **Epidemic Pneumonia.**—De Blasi has observed an epidemic of pneumonia, affecting 60 persons, mostly in groups, and the disease displaying a marked contagious character. A pleural effusion was evident in about half the cases, but it was never purulent.

61. **Yellow Patch in Palms and Soles in Typhoid.**—Philipovicz regards the yellowish discoloration of palms and soles as pathognomonic of typhoid fever. In one of Minciotti's patients the yellow patches were painful. The symptom was most marked in the left palm and sole. The tint was a pronounced orange, and gradually subsided to normal. The pain first attracted attention to the left sole about the eighth day of the disease.

66. **Ligature of the Innominate Artery.**—Giordano's technic aims to open up the field extensively while respecting the points of attachment of the muscles of the region. It has shown many points of advantage over the ordinary technics in his tests on the cadaver. The sternum is divided with the wire saw introduced beneath, sawing on a level with the second rib. The clavicle is then sawed in the same way. The incisions and sawing outline a bone-muscle-skin flap, shaped like a trapezoid, which, when lifted up, exposes amply the innominate artery.

68. **Syphilides of the Liver.**—De Renzi discusses a case of syphilitic, interstitial hypertrophic inflammation of the liver, with chronic icterus. Marked improvement followed mercurial treatment. The icterus had been the first symptom, appearing eighteen months before. The liver, spleen and some of the glands became gradually enlarged. There was no alimentary glycosuria; the functions of the liver were evidently retained and exaggerated. The patient had long lived in a malarial region.

71. **Membranous Enteritis.**—Riva regards hypersecretion of mucus as a means of defense on the part of the organism to protect the mucosa lining the intestinal canal. He has found that bile has an anticoagulating action on the mucus, and has a curative effect in case of hypersecretion of mucus with accumulations of mucous casts in the stools. The mucomembranous formation is probably due to increased production of mucus with simultaneous reduction of anticoagulating substance, and is generally the expression of inflammation of the gastrointestinal mucosa. Its action is injurious, as it obstructs the free course of the feces and provides nooks and recesses where microbes and toxic substances can accumulate. He uses a special preparation of bile and has found it useful in treating cases of mucomembranous enteritis, as he previously reported.

## Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

PROPHYLAXIS AND TREATMENT OF INTERNAL DISEASES. Designed for the Use of Practitioners and of Advanced Students of Medicine. By F. Forchheimer, M.D., Professor of Theory and Practice of Medicine and Clinical Medicine, Medical College of Ohio, Department of Medicine of the University of Cincinnati, etc. Cloth. Pp. 652. Price, $5.00 net. New York: D. Appleton & Co., 1906.

OPERATIVE TREATMENT OF PROLAPSE AND RETROVERSION OF THE UTERUS. By J. I. Parsons, M.D., M.R.C.P., M.R.C.S., Physician to the Chelsea Hospital for Women, Late Surgeon Royal Maternity Charity, Fellow of Royal Medical and Chirurgical Society, Obstetrical Society of London. Cloth. Pp. 90. Price, $1.25 net. New York: William Wood & Co.

PHLEBITIS AND THROMBOSIS. The Hunterian Lectures, Delivered Before the Royal College of Surgeons of England, in March, 1906, by W. Haward, F.R.C.S., Hunterian Professor of Surgery and Pathology in the Royal College of Surgeons of England, etc. Cloth. Pp. 88. Price, $1.50 net. New York: William Wood & Co.

URETHROTOMIES AND KIDNEY CAPSULOTOMY. In Diseases and Injuries of the Urinary Organs. By R. Harrison, F.R.C.S., Past Vice-President and Hunterian Professor of Pathology and Surgery, Royal College of Surgeons, etc. Cloth. Pp. 96. Price, $1.25 net. New York: William Wood & Co.

MEDICAL AND SURGICAL REPORT OF THE PRESBYTERIAN HOSPITAL IN THE CITY OF NEW YORK. Vol. VII, March, 1906. Edited by J. S. Thacher, M.D., and G. Woolsey, M.D. Paper. Pp. 234. New York: Trow Directory Printing and Bookbinding Co., 1906.

LECTURES ON MIDWIFERY FOR MIDWIVES. By A. B. Calder, M.B., M.R.C.S., Lecturer on Midwifery to London County Council, to St. Mary's Midwifery Training School, Fulham, etc. Cloth. Pp. 274. Price, $2.00 net. New York: William Wood & Co.

AIDS TO CHEMISTRY. By T. A. Henry, D.Sc., Chief Assistant Chemist, Scientific and Technical Department of the Imperial Institute, South Kensington. Cloth. Pp. 316. Price, $1.25 net. New York: William Wood & Co.

AIDS TO SURGERY. J. Cunning, M.B., B.S., F.R.C.S., Senior Resident Medical Officer Royal Free Hospital. Cloth. Pp. 394. Price, $1.25 net. New York: William Wood & Co.

AIDS TO SURGICAL DIAGNOSIS. By H. W. Carson, F.R.C.S., Surgeon Tottenham Hospital. Cloth. Pp. 140. Price, $1.00 net. New York: William Wood & Co.

REPORT OF THE COMMISSIONER OF EDUCATION for the Year Ending June 30, 1904. Vol. II. Cloth. Washington: Government Printing Office, 1906.

AIDS TO PHYSIOLOGY. By P. T. B. Beale, F.R.C.S. Cloth. Pp. 239. Price, $1.25 net. New York: William Wood & Co.